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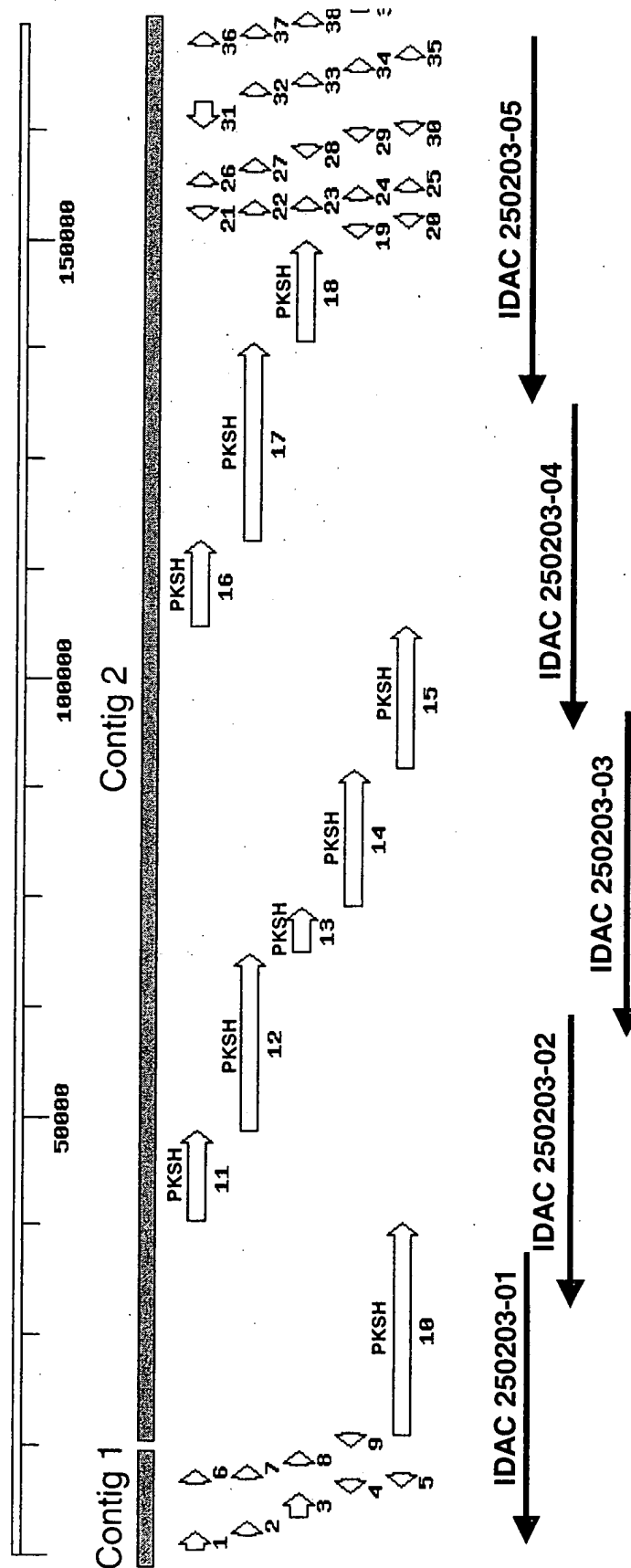
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Figure 1

Gene Cluster for Production of Compound 2(a)



ORF10_pKS01 PIAIVGIGCHFPGGVQSPEALWNLVETGTD AISAFP TGRGWDL DALYDPDPDRAGTSYAR
ORF10_pKS02 PIVIVMSRCRFPGGVRTPEDLWQLLADGTD T VAAFPADRGWDL DGLYSADPERSGTSYTR
ORF10_pKS03 PIAIVMSRCRFPGGVRTPEDLWRLV DGTDAVGAFPADRGWDL DRLYSPDPDQPGTSYTR
ORF10_pKS04 PIVIVMGCRFPGGVRSPEDLWQLVATGGD GITGFP SDRGWNVEALYHPDPD HAGTSYTR
ORF10_pKS05 PIAIVAMSCRFPGGVRTPEDLWRL LSTGGDAIGEFPADRGWDL SRLYSPDPDKQGTFFYAR
ORF11_pKS01 PIAIVAMSCRFPNGVGSPEDLWRL VDEGGDAITGFPADRGWD IESLADPDPDRKGTFYNT
ORF11_pKS02 PIAIVAMSCRYPGGVRTPEELWRL VETGGDAIAGLPGNRGWD T DALH --- ADEGRFTA-
ORF12_pKS01 PIAIVGMSRCRFPGGVSPEDLWRL VESGGDAISGF PVNRGWD IESLYDPDPDHEGTTYAR
ORF12_pKS02 PIAIVAMSCRFPGGIASPEDLWQL LVTGRDGITGFPADRGWDL D SLYSDDPDREGTSYAR
ORF12_pKS03 PIAIVMSRCRFPGGVVRTPEDLWELL STGGDAISDLPLDRGWD I DALYADPSTQGTSYAR
ORF12_pKS04 PIAIVAMSCRFPGGVVRTPEDLWQL LATGRDAIGEF PEDRGWDAEALFGP -QFEQDAPYAR
ORF13_pKS01 PIAITAMSCRFPGGVRSPEELWRL VETGGDAITAF PADRGWDL DNLFSDDPDDHNTSVTR
ORF14_pKS01 PIAIVMGCRYPPGGVTSPEELWQL VVDGGDAISGF PADRGWDM ET VYHPDPEHPGTSYAN
ORF14_pKS02 PIAIVAMSCRFPGGVQSPEDLWQL LTAGADGITRLPENRGWD TEGLYDPDESAGENTSYVR
ORF14_pKS03 PIAIVAMSCRYPGDVRTPEDLWQL LTAGADGITRLPENRGWD TEGLYDPDESAGENTSYAR
ORF15_pKS01 PIAVVAMSCRYPGGIDTPEKLWDL VAHGRDAVSAYPTDRGWDAEVLFD PDP PETGIEAYEQ
ORF15_pKS02 PIAIVAMSCRYPGGVTTPEELWQL LAGGGDAISGF PADRGWD VESLYDPDPDHPGTSYTR
ORF15_pKS03 PIAIVGLCRYPPGGVSPDDLWRL VLEGRDAITEFPEDRGWD VDALFDADPDQQGSYAR
ORF16_pKS01 PIAIVAMSCRYPGGVRSPEDLWRL VENGDDAVSGF PVDRGW DVEALYDADPDSSGSYSVS
ORF16_pKS02 PIAIVAMSCRFPGGVRNPEELWQL LTSEGDGLSQFPLDRGWD V DALYDPNPDAQGTSYTR
ORF17_pKS01 PIAIVGMSRCRFPGGIESPEGLWDL VAGGRDAITDFPTDRGWD IESLYADAPDQQGSYTR
ORF17_pKS02 PIAIVGMSCRYPGGVTTPEELWQL VAGSVDAISFPPTDRGWN L DALYADPGRAGTSYTR
ORF17_pKS03 PIAIVAMSCRFPGDVRTPEDLWELL AEGRDGISDL PDRRGWD T EALYDPPDPSGTSYAR
ORF17_pKS04 PIAIVGMSCRYPGGVETPEDLWRL VVGGGDAISEFPQGRGW D LESLYDPDPDGKGTSYTR
ORF18_pKS01 PIAIVGMSCRYPGDVESPEDLWRL VSEETDAISFPPTDRGWD MGRLEFDADPDGRGTSYVQ
ORF18_pKS02 PIAIVAMSCRFPGGVRSPEDLWGL VLDGRDAISDMPDDR GWDVEGLFD PDPDRPGTSYSR
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Figure 2b

ORF10_pKS01	GAETQEYGPRLQ-----DATDGFEGYLVGTGNAASVASGRIAYTFGFEGPTVTVDTA	SS
ORF10_pKS02	GTNGQDYLSLVTREGDG---LDGLEGHVGTGNAASVVSGRLSYVFGLEGPAITVDTA	SS
ORF10_pKS03	GTNGQDYLSLITRESE-----GLEGHLGTGNAGSVMSGRVSYVLGLEGPVAVTDTAC	SS
ORF10_pKS04	GVMYHDYVTGIGDGGSAVELPEGVEGYLGTGNAGSIASGRIAYTFGLEGPVAVTDTAC	SS
ORF10_pKS05	GTNGQDYGAMLTQIPD-----GIEGFLGTGNAASVVSGRLSYAFGLEGPVAVTDTAC	SA
ORF11_pKS01	GAGAMGYGADLKEA-----PEGLEGLLLTGGAATSVLSGRVSYVFGLEGPAATVDTAC	SS
ORF11_pKS02	GAAYSGYDAQLEQSG-----VDGVLGHVMTGNAGSVMSGRVSYALGLEGPVAVTDTAC	SS
ORF12_pKS01	GASANAYGAGSHDL-----PDGVEGHLTGTASSVLSGRLAYVFGLEGPAATIDTAC	SS
ORF12_pKS02	GSNAQDYQLWLNDAD-----GLEGHLGTGNAASVVSGRLSYTFGLEGPVAVTDTAC	SS
ORF12_pKS03	GTNGQDYLSVLLEEPE-----GLEGHLGTGNAASVVSGRLSYVFGLEGPAVAVTDTAC	SS
ORF12_pKS04	GTNGQDYLSVLVNSAD-----GGDGMSTGNSASVVSGRLSYVFGLEGPAVAVTDTAC	SA
ORF13_pKS01	GINGSDYLTPLLEAAE-----DYAGHLGTGNASSVMSGRLSYTFGLEGPVAVTDTAC	SA
ORF14_pKS01	GTSNHDYLSALLSS-----SENVEGYLGTGNAASVASGRLSYTFGLEGPVAVTDTAC	SS
ORF14_pKS02	GTNGQDYLVNLAAPD-----GVEGFLGTGNAASVVSGRVSYVLGLEGPVAVTDTAC	SS
ORF14_pKS03	GVMYHDYGARLH-----AVPDGVEGYLGTGSSSSIVSGRVAYTFGLEGPVAVTDTAC	SS
ORF15_pKS01	GLMYHDYARLF-----SVPEIEGFLNGSSGSIASGRIAYTLGLEGPVAVTDTAC	SS
ORF15_pKS02	GVMYHDYAALLE-----RSKDGADGSLGSGSTGSIASGRVSYTFGLEGPVAVTDTAC	SS
ORF15_pKS03	GVMYHDYASRLT-----ALPEGVEGFLGTGNAASVISGRLSYAFGLEGPVAVTDTAC	SS
ORF16_pKS01	GVMYHDYTARLD-----SVPEGVEGFLGTGSSGSIASGRVAYTFGLEGPVAVTDTAC	SS
ORF16_pKS02	GTNGSDYLNVRAGAD-----GLEGHLATGNAGSVVSGRLSYTFGLEGPVAVTDTAC	SA
ORF17_pKS01	GTNGQDYPELLREVPK-----GVEGYLLTGNAAASVVSGRISYTFGLEGPVAVTDTAC	SA
ORF17_pKS02	GVMYHDYLRPL-----AVPEGLEGYLGTGTAGSVASGRISYTFGLEGPVAVTDTAC	SS
ORF17_pKS03	GQMHNHYVSRNLN-----TVPEGVEGYLGTGGSSSIASGRVSYTFDFEGPAVAVTDTAC	SS
ORF17_pKS04	GIMYHDYATRLT-----SVPDGVEGYLGTGNSGSIASGRVSYAFGLEGPVAVTDTAC	SS
ORF18_pKS01	GVMYHDYASRLR-----AVPEEVEGYLGTGGSSSIASGRVSYTFGLEGPVAVTDTAC	SS
ORF18_pKS02	GVMYNDYGTLLH-----RAPEGLEGYMGTSSSGSIASGRVSYTFGLEGPVAVTDTAC	SS

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ORF10_pKS01	SLAALHLAVQALRTGECSLALAGGVAVMASPGSFVSFRQRLAPDGRCKPFAAADGTA	
ORF10_pKS02	SLVALHLAVQALRQECTLALAGGVTVMSTPDAFVDFSRQRLAEDGRIKAFASAADGTG	
ORF10_pKS03	SLVALHWAIAQALRQECMALAGGVTVMSTPENFVDFSRQRLAEDGRIKAFASAADGTG	
ORF10_pKS04	SLVALHWAIAQALRSGETMALAGGVAVMATPETFVDFSRQRLSADGRCKSFASAADGTG	
ORF10_pKS05	SLVALHWAIAQALRSGETMALAGGVTVMSSPGAYIDFSRQRLAEDGRIKAFASAADGTG	
ORF11_pKS01	SLVALHLATQALRQECSLALVGGVCVMPSPDVFEVFSRQRLSPDGRCKSFASAADGTG	
ORF11_pKS02	SLVALHWAIAQALRNGECMALAGGVTVMSTPGTFSEFSQGGSLPDGRCKAFASAADGTG	
ORF12_pKS01	SSVALHMAVQALRQECSLALAAGVTVLAGPDVFEVFSRQRLSPDGRCKSFASAADGTG	
ORF12_pKS02	SLVTLHLAAQALRRGECMALAGAVTIMSTPGAFTFSRQRLAEDGRIKAFASAADGTG	
ORF12_pKS03	SLVALHWAIAQALRNGECMALAGGVTVMSTPGTFIEFSRQRLAEDGRIKAFASAADGTG	
ORF12_pKS04	SLVALHLAVQALRNGECMALAGGVTVMSTPGAFAEFSRQRLAEDGRIKAFASAADGTG	
ORF13_pKS01	SLVALHLAVQALRAGECSLAVAGGVHVMSTPGLFVEFSRQRLSTDGRCKAFASAADGTG	
ORF14_pKS01	SSVALHLAVQALRNGECMALAGGATLMSAPGTFIDYSKQRLATDGRCKAFSPDADGFS	
ORF14_pKS02	SLVALHWAIAQALRQECTMALAGGVTVMSTPASFIDFSRQRLAEDGRIKAFASAADGTG	
ORF14_pKS03	SLVALHLAAQALRNGECMALAGGVTVMFTPGTFIEFSRQRLAEDGRCKSFASAADGTG	
ORF15_pKS01	SLVAVHLAAQALRNGECMALAGGVTVMSTPGTFIEFSRQRLAEDGRCKSFASAADGTG	
ORF15_pKS02	SLVALHMAIAQALRTGECMALAGGVTVMATPGTFIGFSRQRLSADGRCKAFSADADGTG	
ORF15_pKS03	SLVALHLAVQALRNGECMALAGGVTVMATPAAFVEFSRQRLAEDGRCKAFSADADGTG	
ORF16_pKS01	SLVTLHLAVQALRAGECSMALAGGVTVMATPATFTEFSRQRLAPDGRCKPFAAADGTG	
ORF16_pKS02	SLVALHLAVQALRSGETMALAGGVTVMSTPGTFIEFSRQRLSTDGRCKAFSSADADGFS	
ORF17_pKS01	SLVALHLAVQALRNDECSMALAGGVTVMSSPRAVQFSRQRLAPDGRCKPFADGADGTG	
ORF17_pKS02	SLVALHLAAQALRNGECMALAGGVTVMSTPDTFIDFSRQRLSGNGRCKSFASADADGTG	
ORF17_pKS03	SLVALHLAAQALRNGECMALAGGVTVIITPDVFEFSRQRLSADGRCKPFAEADGTA	
ORF17_pKS04	SLVALHWAIAQALRNGECMALAGGVTVMSTPGTFIEFSRQRLAEDGRIKAFASAADGTG	
ORF18_pKS01	SLVTLHLAMQALRKGECSMALAGGVTVMATPGTFIEFSRQRLSFDGRCKSFADADGTG	
ORF18_pKS02	SLVTLHLAVQALRNGECMALAGGVTVMATPGTFVAFSRQRLSADGRCKPFAAADGTG	

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ORF10_pKS01
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ORF17_pKS03
ORF17_pKS04
ORF18_pKS01
ORF18_pKS02

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WGEVGVMLLVERLSDARRNGHPVLAVVRGSAINQDGASNGLTAPNGPSQQRVIRQALAGA
WGEVGVMLLVERLSDARRNGHPVLAVVRGSAVNQDGASNGLTAPNGPSQQRVIRAAALASA
WAEAGMLLVERLSDAERNHGHPVLAVVRGSAINQDGASNGLTAPNGPSQQRVIREALASA
WGEVGVMLLVERLSDARRNGHPVLALVRGSAINQDGASNGLTAPNGPSQQRVIRQALAN
WSEGVGVLLVERLSDARRNGHPVLAVVRGSAVNQDGASNGLTAPNGPAQQRVIRQALENA
WGEVGVMLLVERLSDARRNGHPVLAVVRGSAVNQDGASNGLTAPNGPSQQRVIRAAALASA
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WSEGVGLLLVERLSDARRNGHPVLAVVRGTAVNQDGASNGLTAPNGPSQQRVIREALADA
WGEVGVMLLVERLSDAERNHGHPVLAIVRGSAINQDGASNGLTAPNGPSQQRVIRAAALASA
WGEVGVMLLVERLSDARRNGHPVLAIVRGSAVNQDGASNGLTAPNGPSQQRVIRAAALASA
PAEGVGVLLERLSDARKNGRHPVLAVVRGSAVNQDGASNGLTAPNGPSQQRVIRQALANA
LAEGVGILLVERLSDARRKGHPVLAVVRGTAVNQDGASNGLTAPNGPSQQRVILQALSNA
WGEVGVILLVERLSDAQRNGHPVLAIVRGSAINQDGASNGLTAPNGPSQQRVIRQALASG
WGEAGMLLLERLSDARRNGHQVLAVVRGSAVNQDGASNGLTAPNGPSQQRVIRQALANA
WGEAGMVLLERLSEARRNGHPVLAVVRGSAVNQDGASNGLTAPNGPSQQRVIRQALAGA
WGEVGVMLLVERLSDARRNGHPVLAVVRGSAINQDGASNGLTAPNGPSQQRVIRAAALASA
WSEGAGVLLVERLSDARRNGHPVLAVVRGSAINQDGASNGLTAPNGPSQQRVIRQALASA
WGEVGVMLLVERLSDAQRNGHPILAVVRGSAINQDGASNGLTAPNGPSQQRVIRQALANA
PAEGVGVLLERLSDARRNGHPILAVVRGSAINQDGASNGLTAPNGPSQQRVIRQALANA
WGEVGVMLLVERLSDARRNGHPVLAVVRGSAINQDGASNGLTAPNGPSQQRVIRQALTNA
WAEAGMILVERLSDARRNGHQVLAVVRGTAVNQDGASNGLTAPNGPSQQRVIRQALANA
WGEVGVMLLVERLSDARRNGHQVLAVVRGTAVNQDGASNGLTAPNGPSQQRVIRQALANA
WAEAGMLLVERLSEARAKGHPVLAIVRGSAINQDGASNGLTAPNGPSQQRVIRQALAGA
WAEAGMLLVERLSDARKNGHTVLAVVRGSAVNQDGASNGLTAPNGPSQQRVIRQALADA
WGEVGVMLLVERLSDARAKGHPVLAVVRGSAINQDGASNGLTAPNGPSQQRVIRQALASA
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ORF10_pKS01
ORF10_pKS02
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ORF10_pKS04
ORF10_pKS05
ORF11_pKS01
ORF11_pKS02
ORF12_pKS01
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ORF17_pKS04
ORF18_pKS01
ORF18_pKS02

GLSAAEVDVVEA GTGTRLGDPIEAQALLATYGQEHDDRPLWLGLSKSNIG TQAAAGV
GLSAADVDAVEA GTGTRLGDPIEAQALLATYGGQRPADRPWLGLSVKSNIG TQAAAGV
GLSAAADVVEA GTGTGKLGDPIEAQALLATYGGDRPAGRPWLGLSIKSNIG TQAAAGV
DLSAADIDAVEA GTGTRLGDPIEAQALLATYGRERAGRPWLGLSIKSNIG TQAAAGV
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RLSAAEVDVVEA GTGTTLGDPIEAQALLATYGGQDRPEGRPLRLGLSKSNIG TQAAAGV
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RLTPADIDAVEA GTGTTLGDPIEAQALLATYGGQRTDGRPLWLGLSKSNLGTQAAAGV
GLSAAEVDAVEA GTGTTLGDPIEAQALLATYGGQRPDDQPLWLGLSVKSNIG TQAVAGA
GLSAADVDAVEA GTGTTLGDPIEAQALLATYGGQDRPADRPLQLGLSIKSNIG TQAAAGV
GLAPGDIDAVEA GTGTGKLGDPIEAQALLATYGGDRPADRPLQLGLSIKSNIG TQAAAGV
RLSTDQVDVVEA GTGTSLGDPIEAQALLATYGGQDRPADQLLGLSVKSNIG TQAAAGV
RLTPDQVDAVEA GTGTGLGDPIEAQALLATYGGQDRPDGRPLWLGLSKTNIG TQAAAGV
GLTTMDVDVEA GTGTGKLGDPIEAQALLATYGGQDRPEGRPLLLGLSKNLGTQAAAGV
GVAAGHVDAVEA GTGTTLGDPIEAQALLATYGQEHDDRPLLLGLSVKSNLGTQAAAGV
RLSATQVDAVEA GTGTTLGDPIEAQALLATYGGQDRPDGRPLWLGLSIKSNMG TQAAAGI
GLSAAEVDAVEA GTGTTLGDPIEAQALLATYGREHTEDSPLWLGLSIKSNMG TQAAAGV
GLSAADVVEA GTGTTLGDPIEAQALLATYGQEHDTDEPQLLGLSIKSNFG TQAAAGV
RLSAADVVEA GTGTTLGDPIEAQALLATYGGDRPAGRPPLLGLSIKSNIG TQAAAGV
RLSAADVVEA GTGTTLGDPIEAQALLATYGGQDRPAGRPPLLGLSIKSNIG TQAAAGV
GLTPAQVDVVEA GTGTTLGDPIEAQALLATYGQNREGRPLWLGLSVKSNIG TQAAAGV
GLTTAEVDVVEA GTGTTLGDPIEAQALLATYGGQDRPAGPLRLGLSIKSNIG TQAAAGV
GLTAAEVDAVEA GTGTRLGDPIEAQALLATYGGQDRPEGSPLWLGLSIKSNFG TQAAAGV
RLTSDQIDVVEA GTGTTLGDPIEAQALLATYGREREADQPLWLGLSIKSNMG TQAAAGV
RLTAADVVEA GTGTTLGDPIEAQALLATYGREHTEDSPLWLGLSVKSNLGTQAAAGV
GLSAAADVVEA GTGTTLGDPIEAQALLATYGQEHDDSDSPLWLGLSIKSNFG TQAAAGV
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[illegible]

SGTNAHVIVEEP
SGTNAHTIIEEA
SGTNAHTIIEQA
SGTNAHTIIEQP
SGTNAHTVLEQA
SGTNAHTIIEQA
SGTNAHTIIEQA
SGTNVHTIIEQA
SGTNAHAVIEQA
SGTNAHTIIEQA
SGTNAHTIIEQA
SGTNAHVIVEQA
SGTNAHIIIEQA
SGTNAHTIIEQA
SGTNAHAIIEQA
SGTNAHTIIEQA
SGTNAHTIIEQA
SGTNAHAIIEQA
SGTNAHVIVEQA
SGTNAHAIIEQA
SGTNAHTVIEQA
SGTNAHVIIIEQP
SGTNAHAIIEQA
SGTNAHTIIEQA
SGTNAHTIIEQA
SGTNAHTIIEQA

Figure 3a

ORF10_pat01	VLLPWALSAKTPEALRAQAR-----RLGTLIAAQP--HVTPL---DIGHSLATTRGRF
ORF10_pat02	SVLPLLLISAKSDAGLRAQSE-----QLATHLVGNP--DVPIG---DIAYSLTTGRSGL
ORF10_pat03	LPLPYVLSAKSPEALRAQAS-----VLRTHLEATD--HNGPG--SDDLAFSLATARAHL
ORF10_pat04	PVVPWVLSGKGEEALRAQAR-----QLQSVVLRAP--ELRPV---DIAGSLAVGRASF
ORF10_pat05	GVMPWTLSAKSEALRVQAE-----RLRTRIA-----SDPLLQPVVDVAYSLATSRAAL
ORF11_pat01	AVLPWTLSSGRSTAALRAQAA-----RLLTTQGQDG--ATEPGRPLDIGYSLATTRAAL
ORF11_pat02	GTVPYVLSAKSSDALRAQAR-----QLLAVVEAAE--SPRVA---DLAYSLATSRAGL
ORF12_pat01	KALPWLLSAKGRDALRDRAA-----QLLAYAEEHP--DLRPV---DIAGSLAVGRPSF
ORF12_pat02	PVLPVLSGRTAPALRAQAERLRPAATALATGTVTNSG--ALEAL---DLGYSLATSRAAL
ORF12_pat03	DFVPLMLSAKSDVALRAQAA-----SLRARLIAAP--DMRLS---DVGSTLTGTSRAF
ORF12_pat04	AVSAWPLAGKTEAGLREQAE-----RLLAHIDAHS--ELR---PVDVGHSLATGRAAF
ORF13_pat01	-VVPWVLSGKSAGALRAQAE-----RLSGFLAGASAVDVPVS--DVGWSLASSRAGL
ORF14_pat01	GALPVVLSGRTEPALRAQAA-----ALHAHLAAHP--GLGIA---DLAFSQALTRAAL
ORF14_pat02	GPQPWLLSAKTRDALHDQAR-----RLHAHAELNP--ELSPA---DLGLSLAAGRSF
ORF14_pat03	SSVPLIVSARGEDALRAQAR-----RLHAHVHADP--GLRAV---DLGLSLATTRSAL
ORF15_pat01	VPPLWTLSAKSPAALRAQAG-----KLHAHLTAHP--GLRPG---DVGHSLATTRTDF
ORF15_pat02	SALPLQLAGRSAAEALSAQAR-----ALSAHLT-----AHPDVPLADLAYSLATSRAF
ORF15_pat03	GSLPWLLSAKGADALRDQAA-----RLRAHAIGHP--ELSLA---DIGYALATSRTAL
ORF16_pat01	-VVPWVLSGKSAGALRAQAE-----RLSGWLAGASAAGVASV--DVGWSLASSRAGL
ORF16_pat02	-VLPWTLTAKTEKALQQAQAE-----RLLTQLT--TRSDLRLV--DVGHSLATTRTAL
ORF17_pat01	GPVPVLSGQSDAALRAQAE-----RLAHLRAHPGLGADTGTLTDLGFSLATSRSSL
ORF17_pat02	TPLPFALSGRTPAALRAQAA-----RLIGHLAPRP--EAAPA---DVALSLATTRTAL
ORF17_pat03	AALPWNLSTARTPDALRAQGE-----RLLSHLETHCE--THPETVLADIGHSLTTGRALF
ORF17_pat04	RVLFPVLSAKSAGALRGQAV-----RLKAHVEASP--EVSGAGAVDVAYSLATTRAVF
ORF18_pat01	PVLPWPVSARTEEALHAQAE-----RLLAHVR-----TNPDAQPVGVALSLATGRAAL
ORF18_pat02	RVLFPVLSAKSAGALRGQAV-----RLKAHVEASP--EVSGAGAADVAYSLATTRAVF
	...: . * : . * : . . . : : * :

ORF10_pat01	EQRAIVLGDD--REAFDALHALAEGN-----DTPSVVQGAA--APGKLAFLFTGCG
ORF10_pat02	ETRAILVGADN--RTGLAAALRSLAAGE-----QAPGLVQGTV--TEGGLAFLFTGCG
ORF10_pat03	EHRAVLT--ADD--PQEFREALARLADGD-----PSPRITTGAV--SDGRTAFLFTGCG
ORF10_pat04	EDRAAVV--AAD--REGLLAALALADGG-----SATGAVEGSA--VGKLAFLFTGCG
ORF10_pat05	ERRAVVATE--RDEFLAGLKALASGQ-----PAPGLVQGR--VTEGGLAFLFTGCG
ORF11_pat01	EHRAVLL--GRT--EDDFAAALSALAEGA-----ESAGLVQGRV--TEGGLAFLFTGCG
ORF11_pat02	DHRAALVADD--RENLTRALAALAAGE-----QVPGVLRGTA--TGGGLAFLFTGCG
ORF12_pat01	EDRAAVV--AAD--REGLLAGLAALADGG-----SATGLVKGSSQLVGKLAFLFTGCG
ORF12_pat02	EHRAVLIGTPSD--GQALASRLDALAAGE-----QVPGVLRGTA--SGGGLAFLFTGCG
ORF12_pat03	ERRAALV--AGG--REGLLAGLEALADGG-----SAAGLVEGSP--VSGKLAFLFTGCG
ORF12_pat04	DHRAVLVAGDD--RSEFRRALAALASGE-----SVAQVVQGIARPDQVAFVFTGCG
ORF13_pat01	EHRAVVLG-----DHAAGVAASVASV-----MAAGVVTGSV--VGKTAFFVFPFGCG
ORF14_pat01	DRRAAVVADD--RDALLAGLAALAEGR-----PSADVVEGSA--TDGKLAFLFTGCG
ORF14_pat02	ERRAAVI--AAD--RDGLLAGLAALADGG-----AAAGLVEGSP--VAGKLAFLFTGCG
ORF14_pat03	EQRAALVAGD--RAELLRGLDALARGE-----DTAGLVRGTA--REGQVAFVFTGCG
ORF15_pat01	EHRAVLT--SADG--PVGLVRALALADSAPEDTAPADRAPGVTRGRP--VAGKLAFLFTGCG
ORF15_pat02	DHRAVLVATEGTTAATAVTALDALADRR-----TAPGLVRGTASKGRTAFLFTGCG
ORF15_pat03	DRRAAVVAGD--REEFLAGLAALAEGA-----TAAGLTEGSP--AGGKLAFLFTGCG
ORF16_pat01	EHRAVVLG-----DHAAGVAVASVASV-----MAAGVVTGSV--VGKTAFFVFPFGCG
ORF16_pat02	DQRAVLIGRDRP---DYLGAALTALAAGD-----TSPLLVOGAV--VGKTAFFVFPFGCG
ORF17_pat01	DRRAVLFGDR---DSLLADLSALAEGE-----QPAGPVLGAV--GEGKTAFLFTGCG
ORF17_pat02	DRRAAVIAHD---RTELLAGLTALEGH-----DSARLVQHTA--ADGRTAILFTGCG
ORF17_pat03	EHRAVTVAGD--RDGFRAGLAALAEGR-----TAAGLIQSSSTGGRTAFLFTGCG
ORF17_pat04	DHRAVVVAGD--REELLRSLAAVESEG-----AAAGVTRGAVG--GGKLAFLFTGCG
ORF18_pat01	EHRAVVVATD---RETALADLAALASGE-----TSARVVVGEPGARGKTAFLFTGCG
ORF18_pat02	DHRAVVVAGD---REELLRALAAVESEG-----TAAGVTRGTAG--GGKLAFLFTGCG
	: * * : : : * : * : * : *

Figure 3b

	M1	
ORF10_pat01	SQRLGMGRELYETHPVFADALDDACWYLDQLELPL--LDVLFADEGSPEAALLHQYTAYT	
ORF10_pat02	SQRLGMGRELYETYPVFADALDAVCARMD--LEVPL--RDVLFAGY----AGLLDETAYT	
ORF10_pat03	SQRLGMGRELYEAYPVFADALDAVCAHVDAHLEVP--KDVLFAGD----AGLLDQTAYT	
ORF10_pat04	SQRLGMGRELYEAYPVFAEALDAVCAR----LELPL--KDVLFAGD----AGLLDETAYT	
ORF10_pat05	SQRLGMGRELYETYPVFADALDAVCVR----LELPL--MDVLFAGTE----RDALDETYGT	
ORF11_pat01	SQRLGMGRELYEAYPVFADALDAVCAR----LELPL--KDVLFAGD----AGLLDETAYT	
ORF11_pat02	SQRLGMGRELYETYPVFARALDAV----DARLELPM--KEVLFAGD----ADLLNETAHT	
ORF12_pat01	SQRLGMGRELYETYPVFAQALDAVCER----LELPL--KNVLFAGTD----SAALDETSYT	
ORF12_pat02	SQRLGMGRELYETYPVFAEALDAVCAR----LELPL--KEVLFAGD----GAALDQTAVT	
ORF12_pat03	SQRLGMGRELYEAYPVFADALDAVCVR----LELPL--MDVLFAGD----AGLLNETAYT	
ORF12_pat04	SQRLGMGRELYETYPVFADALDAVCAR----LELPL--KDVLFAGD----ADRLNETAYT	
ORF13_pat01	SQWVGMAVGLLDSSPVFAARVEECAKALEPFTDWSL--VDVLRGVEG---APSLERVDVV	
ORF14_pat01	SQRPGMGRELYATYPVFAQALDAVCER----LELPL--KDVLFAGTDGAA--GAALDETAYT	
ORF14_pat02	SQRLGMGRELYDTYPVFADALDAVCAHVDAHLEVP--KDVLFAGD----TGLLDQTAYT	
ORF14_pat03	SQRPGMGRELYDAHPVFADALDEICGELDRHLEVP--KGVLFATE----GDLIHQTAYT	
ORF15_pat01	SQRLGMGRELYETYPVFAQALDAVCERLN--LEVPL--RDVLFAGD----AGLLDQTVYT	
ORF15_pat02	SQRLGMGRELYEAPVFARALDAVCDR----LELPL--KDVLFAGTD----AGLLNETVYT	
ORF15_pat03	SQRLGMGRELYSAHPVFARALDAVCDG--LALDVPL--KQVLFAGSD----ADLLDRTAYT	
ORF16_pat01	SQWVGMAVGLLDSSPVFAARVDECAKALEPFTDWSL--VDVLRGVEG---APSLERVDVV	
ORF16_pat02	SQWVGMAVALLDASPVFAARVDECAKALEPFTDWSL--RDVLRGVTG---APSLDRVDVV	
ORF17_pat01	SQRLGMGRELYATHPGFARALDEVRAELDQHLEPL--FDVLFAGTPEADLLDETAYT	
ORF17_pat02	SQRPGMGRELYETYPFAEALDAVCAELDPHLEQPL--KEVLFATD----GDLLNRTGRT	
ORF17_pat03	SQRLGMGRELYEAYPVFARALDEVCA--LELPLPLKDVLFAGTD----TGLLNETAYT	
ORF17_pat04	SQRLGMGRELYETYPVFARALDAACAR----LELPL--KDALFAGTD----AGLLGETAYT	
ORF18_pat01	SQRLGMGRELYEYPVFADALDAVCAR----LELPL--KDVLFAGD----ARLLDETAYT	
ORF18_pat02	SQRLGMGRELYETYPVFARALDAACAG----LELPL--KDALFAGD----AGLLDETAYT	
	** . * . * . * . * . * . * . * . * . * . * . * . * . * . * . * . * . * . *	
	M2	M3
ORF10_pat01	QPALFAVEVALFRLVDSWGLKPDFVAGHS	SIGEIAAAHVAGVFSLEDACMLVAARGRLMQA
ORF10_pat02	QPALFAVEVALFRLVSWGLRPDFVAGHS	SIGEIAAAHVAGVLSLDDACALVEARGRLMGA
ORF10_pat03	QPALFAVEVALFRLVSWGKPDFVAGHS	SIGEIAAAHVAGVFSLQDASELVFARGRLMQA
ORF10_pat04	QPALFAVEVALFRLVSWGLRPDFVAGHS	SIGEIAAAHVAGVFSLDDACALVEARGRLMGA
ORF10_pat05	QPALFAVEVALFRLVSWGVRPDFLAGHS	SIGEIAAAHVAGVFSLDDACALVEARGRLMQA
ORF11_pat01	QPALFAVEVALFRLVSWGKPDFVAGHS	SIGEIAAAHVAGVFSLEDACALVSARGRLMGA
ORF11_pat02	QPALFAVEVALFRLLESWGVRPDFLAGHS	SIGEIAAAHVAGVFSLDDACTLVEARGRLMQA
ORF12_pat01	QPALFAVEVALFRLVSWGLKPDFLAGHS	SIGEIAAAHVAGVFSLDDACALVSARGRLMGA
ORF12_pat02	QPALFAIEVALFRLVSWGLRPDFVAGHS	SIGEIAAAHVAGVFSLDACRLVEARGRLMQA
ORF12_pat03	QPALFAVEVALFRLVSWGLRPDFLAGHS	SIGEIAAAHVAGVLSLDDACALVEARGRLMGA
ORF12_pat04	QPALFAVEVALFRLVSWGVRPDFLAGHS	SIGEIAAAHVAGVFSLDDACALVEARGRLMQA
ORF13_pat01	QPALFAVMVSLAEVWRAAGVRPAGVIGHS	SQGEIAAACVAGILSLEDARVVALRSQAIGR
ORF14_pat01	QPALFAVEVALFRLVSWGLKPDFLAGHS	SIGEIAAAHVAGVFSLDACTLVEARGRLMQA
ORF14_pat02	QPALFAVEVALFRLVSWGLRPDFLAGHS	SIGEIAAAHVAGVFSLQDASELVVARGRLMQA
ORF14_pat03	QPALFAVEVALFRLLESRGVQPDFLAGHS	SIGEIAAAHVAGVFSLQDASELVVARGRLMQA
ORF15_pat01	QTALFAVEVALFRLVSWGLKPDFLAGHS	SIGEIAAAHVAGVFSLDACALVSARGRLMGA
ORF15_pat02	QPGLFAVEVALFRLLESWGKPDFLAGHS	SIGEIAAAHVAGVLSLDDVCAALVEARGRLMGA
ORF15_pat03	QPALFAVEVALFRLVSWGLKPDFLAGHS	SIGEITAHHVAGVLSLDDACTLVAAARGRLMQA
ORF16_pat01	QPALFAVMVSLAEVWRAAGVRPAGVIGHS	SQGEIAAACVAGILSLEDARVVALRSQAIGR
ORF16_pat02	QPALFAVMVSLAEVWRAAGVRPDAVIGHS	SQGEIAAACVAGILSLEDARVVALRSQAIGR
ORF17_pat01	QSALFAVEVALFRQLEQWGVGADFLIGHHS	SIGELAAHVSGVFTLADAALVAAARGRLMQA
ORF17_pat02	QPALFALETALYRLVSWGVRPDFVAGHS	SIGEITAHHVAGVLSLPDAATLVAAARGRLMQE
ORF17_pat03	QPALFAVEVALFRLVSWGLKPDFLAGHS	SIGEIAAAHVAGVLSLEDACALVSARGRLMGA
ORF17_pat04	QPALFAVEVALFRLLESWGVRPDFLAGHS	SIGEIAAAHVAGVLSLDDACALVEARGRLMQA
ORF18_pat01	QPALFAVEVALFRLVSWGLKPDFLAGHS	SIGEIAAAHVAGVFSLDACALVSARGRLMGA
ORF18_pat02	QPALFAVEVALFRLLESWGVRPDFLAGHS	SIGEIAAAHVAGVLSLDDACALVAAARGRLMQA
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ORF10_pat01 LPAG-GVMIALQASEDEVLPLLT----DRVSIAAINGPQAVVIAGDEDAAAAIAETFOQA
ORF10_pat02 LPGG-GVMIAVQAPEAEVLPLLT----ERVSIAAINGPQSVVIAGDEADAVAIVESFTG
ORF10_pat03 LPTG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIVESFTD
ORF10_pat04 LPAG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPRSVVIAGDEADAVAIVESFTG
ORF10_pat05 LPTG-GVMIAVQASEAEVLPLLT----ERVSIAAINGPQSVVIAGDEADAVAVESFTG
ORF11_pat01 LPAG-GVMIAVQASEAEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIGSFAD
ORF11_pat02 LPTG-GVMIAVQASEDEVLPLLT----QGVSIAAINGPQSVVIAGDEADAVAIAESFTD
ORF12_pat01 LPGG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIAESFAD
ORF12_pat02 LPGG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIAESFTG
ORF12_pat03 LPAG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIVESFTG
ORF12_pat04 LPTG-GVMIAVQASEAEVLPLLT----ERVSIAAINGPQSVVIAGDEADAVAIVDAFND
ORF13_pat01 VLAGLGGMVSVPLPAKAVRELIAPWGEGRISVAAVNGPSSVVVSGEAAALDELLVSCSE
ORF14_pat01 LPTG-GVMIAVEASEDEVLPLLT----DWVSIAAVNGPRSVVVGDEDAAVAIAEFAAQ
ORF14_pat02 LPTG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIAESFTG
ORF14_pat03 LPTG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIAESFTD
ORF15_pat01 LPGG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIAESFAD
ORF15_pat02 LPGG-GVMIAVQASEAEVLPLLT----DRVSIAAINGPRSVVIAGDEADAVAIVESFTD
ORF15_pat03 LPTG-GVMIAVEASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIAESFTG
ORF16_pat01 VLAGLGGMVSVPLPAKAVRELIAPWGEGRISVAAVNGPSSVVVSGEAAALDEMLASCESE
ORF16_pat02 VLAGLGGMVSVPLPAKAVRELIAPWGEDRISVAAVNGPSSVVVSGETAALDELLASCSD
ORF17_pat01 LPAD-GAMIAVEATEDEVAPLLT----GRVSIAAVNGPRSVVVGDEDAATALAETLRAR
ORF17_pat02 LPEG-GAMIALTATEDEVLPLLAGH-EDRIGIAAVNSASSVVISGEGLALEIAAEFERR
ORF17_pat03 LPGG-GVMIAVQASEGEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIVESFS
ORF17_pat04 LPTG-GVMIAVQASEAEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIVESFTG
ORF18_pat01 LPAG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIVESFTG
ORF18_pat02 LPTG-GVMIAVQASEDEVLPLLT----DRVSIAAINGPQSVVIAGDEADAVAIVESFS

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Figure 3d

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ORF10_pat01 WVRHVRDAVRYLDGVRTLHQRGVRTFLELGPDAVLTAMAQDCVDP-----QGAAFAPALR
ORF10_pat02 WVRHVREAVRFLDGMRVLEAAGVTTYVELGPGGVLSALAQECVSG-----DGAAFVPVLR
ORF10_pat03 WVRHVREAVRFLDGIRTLEAAGVTKYVELGPDGVL SAMAQDCVSG-----EGSVFIPVLR
ORF10_pat04 WVRHVREAVRFLDGIRALEAAGVTTYVELGPGGVLSALAQECVSG-----DGAAFVPVLR
ORF10_pat05 WVRHVREAVRFLDGTRTLEALGVTTYVELGPDGVL SAMAQECVTG-----EDSVFVPVLR
ORF11_pat01 WVRHVREAVRFLDGIRTLEAAGVTKYVELGPDGVL SAMAQDCVSG-----EGSVFIPVLR
ORF11_pat02 WVRHVREAVRFLDGIRALESRGVTTYIELGPDGVL SAMAQDCLTAGTG-TGTAIFAPVLR
ORF12_pat01 WVRHVRETVRFLDGIRTLEAAGVTKYVELGPDGVL SAMAQDCVSG-----EDSVFIPVLR
ORF12_pat02 WVRHVREAVRFLDGIRALEAAGVTTYVELGPGGVLSALAQECVSG-----DGAAFVPVLR
ORF12_pat03 WVRHVREAVRFLDGIRALEAAGVTTYVELGPDGVL SAMAQECVTE-----GGAAFVPVLR
ORF12_pat04 WVRHVREAVRFLDGIRALEAAGVTYVELGPDGVL SAMAQECVTG-----EGAAFVPALR
ORF13_pat01 WFQNLRRRTVELEEATRLLQGGFGVFVLESSPHPVLSVGMQETVEDAG---REAAVLGSLR
ORF14_pat01 WVRHVREAVRFLDGIRWLESRGVTTYIELGPGGVLSALGQDCQTATG---PRAAFLPALR
ORF14_pat02 WVRHVREAVRFLDGIRTLEAAGVTKYVELGPDGVL SAMAQDCVSG-----EGSVFIPVLR
ORF14_pat03 WVRHVREAVRFLDGIRALEAAGVTTHIELGPDGVL CAMAQECVSG-----EDTVFVPVLR
ORF15_pat01 WVRHVRETVRFLDGIRTLEAAGVTTHFVELGPDVLSAMAQDCPSA-----DTAAFLGSLR
ORF15_pat02 WVRHVREAVRFLDGIHALEAAGVTTYVELGPDGVL SAMAQECVTG-----EDSVFVPVLR
ORF15_pat03 WVRHVREAVRFLDGIRTLEDAGVTTYIELGPGGVLSAMGQSCVTR-----DDAFLPALR
ORF16_pat01 WFQNLRRRTVELEEATRLLQGGFGVFVLESSPHPVLSVGMQETVEDAG---REAAVLGSLR
ORF16_pat02 WFQNLRRRTVELEEATRLLQGGFGVFVLESSPHPVLTMGVQETVEDAG---RDAAVLGSLR
ORF17_pat01 WVRHVREAVRFLDGVRLSAQGVTTFVEVGPGGVLTALAQECVTG-----QDAFVPVLR
ORF17_pat02 WVSHVREAVRFLDGIRTLDAEHVTTYELGPQGVLSGLGRDCLTDPADPADTAVFVPALR
ORF17_pat03 WVRHVREAVRFLDGIRALEAAGVTTYIELGPDGIL SAMAQECITG-----EGAAFAPVLR
ORF17_pat04 WVRHVREAVRFLDGIRTLEAAGVATYVELGPDGVL SAMAQDCVTG-----EGAAFAPALR
ORF18_pat01 WVRHVREAVRFLDGIRALEAAGVTTYVELGPDGVL SAMAQACVTG-----ENSVFVPVLR
ORF18_pat02 WVRHVREAVRFLDGIRALEAAGVTAYVELGPDGVL SAMAQECVTG-----EGAAFAPALR
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ORF10_pat01 SGRPEAATVLNAVAHAHVGAETDWAFFAGTGAQRVDLPTYAFQRRYWM--
ORF10_pat02 SGRPEAETAVTALAQAHVGRVDVDWAFFSGTGVRVDLPTYAFQRRFWP--
ORF10_pat03 KARPEAESVTALASAHVHGIPVDWQAYFAGTGAQRVDLPTYAFQRRYWP--
ORF10_pat04 SGRSEAETAVTALAQAHVGRVNDWAFFAGTGAERVLDLPTYAFQRRYWL--
ORF10_pat05 SGRPEAESVTALAQVHVIRGIAVDWQAYFAGTGAQRVDLPTYAFQRRYWL--
ORF11_pat01 KARPEAESVTALATAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWL--
ORF11_pat02 AARPEAESVTALATAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWP--
ORF12_pat01 KARPEAETVATALASAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWI--
ORF12_pat02 SGRSEAETVATALAQAHVGRVNDWAFFAGTGAERVLDLPTYAFQRRYWP--
ORF12_pat03 KGRPEAETVATLGAHVGRVNDWAFFAGTGAERVLDLPTYAFQRRYWP--
ORF12_pat04 KGRPEAETITAAALAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWV--
ORF13_pat01 RGEGGLERFWLSLGEAWVRGVVDWHAFFAGTGAQRVDLPTYAFQRRYWP--
ORF14_pat01 TGRPEASLTAAGAHVGRVNDWAFFAGTGAQRVDLPTYAFQRRYWP--
ORF14_pat02 KARPEAESVTALATAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWP--
ORF14_pat03 PGRPEAETVATALAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWL--
ORF15_pat01 KGRSETGSLTDALARLHVGGVAVDWDAYYSGTDVQRVDLPTYAFQRRYWL--
ORF15_pat02 SGRPEAESVTALAQAHVGRVNDWAFFAGTGAERVLDLPTYAFQRRYWP--
ORF15_pat03 ADRSEETLTSAVARAHLRGITVDWDAYYSGTGARRVDLPTYAFQRRYWL--
ORF16_pat01 RGEGGLERFWLSLGEAWVRGVVDWHAFFAGTGAQRVDLPTYAFQRRYWL--
ORF16_pat02 RGEGGLERFWLSLGEAWVRGVVDWHAFFAGTGAQRVDLPTYAFQRRYWL--
ORF17_pat01 GDRPEAAAFATAVAQAHVGVAVDWSAVFAGRGATRIDLPTYAFQRRYWL--
ORF17_pat02 RDRGEAEALTAIAAAHTRGVPLDWSAYFAGTGAQRVDLPTYAFQRRYWL--
ORF17_pat03 AGRDEAETVLSALAAHVGRVNDWAFFAGTGAQRVDLPTYAFQRRYWL--
ORF17_pat04 KGRPETETITLALAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWL--
ORF18_pat01 SGRSEAESVTALAQAHVGRVNDWAFFAGTGAERVLDLPTYAFQRRYWL--
ORF18_pat02 KGRPEAETITLALAHVHGIPVDWQAFYAGTGAQRVDLPTYAFQRRYWI--
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Figure 4

ORF10_pDH03	IGLGDAGHPLLGAVALADSEGVLFTGRLSLDTHPWLADHTILGSVLLPGTAFVDLAIRA
ORF11_pDH01	AGLDPAGHPLLGAAVTLAGSDSVLFTGRLSLRTQPWADHTVSGTTVLPGAAFVELAVRA
ORF12_pDH01	AGLEEAGHPLLGAAVPLADSEGFLFTGRLGRTSHPWADHAVMDTVLLPGTAFVDLAVRA
ORF12_pDH04	AGIGSAGHPLLGAAVELPDSGFLFTGRLSLRTHPWLADHVVDTVVVPGAAFVELAVRA
ORF14_pDH02	IGLDDTAHPLLSAGVALPESDGMVFAGRLALSTHAWLADHAILGSVLLPGTAFVELATRA
ORF14_pDH03	AGLDAADHPLLGAATVSLPGSDGLVLTGRLALSTHPWLSDHTVMDTVLLPGTAFVELALRA
ORF15_pDH01	AGLGAAGHPLLGAVALADLDGFLYTGRLSLDTHPWLADHAVMGSVLLPGTAFVELAIRA
ORF15_pDH02	LGLAAAGHPLLGAAVTLADADGCVLTGRLSLRTHPWLADHAVMGSVLLPGTALVELALHA
ORF15_pDH03	AGLGSAGHPLLGAAVELPDSGFLFTGRLSLRTHPWLGDHRVAGTVLLPGAALLELAVRA
ORF17_pDH01	AGIGAADHPLLGAALADGDGHLFTGRLSLATHPWLADHTVMDTVLLPGTAFVELALQA
ORF17_pDH02	AGMGAHHPLLGAVALADGEGFLFTGRLSLDTHPWLADHAVMGNVLLPGTAFVELAIRA
ORF17_pDH03	AGLGATDHPLLGAAVELPDSGFLFTGRLSLATHPWLADHAVLGSVLLPGTAFVELALRA
ORF17_pDH04	FGLGATDHPLLDAITIELPDSGFLFTSRLSLDTQPWADHAVLGSVLLPGTAFVELAVRA
ORF18_pDH01	AGLRSADHPLLGAASVALADAEGLLLTGRLSLDTHPWLADHAVAGTVLLPGTAFVELALRA
ORF18_pDH02	AGLGAAEHPLLGAAVELPDSGGLLTGRLSLLSHPWADHAVAGTVLLPGTAFVELALHA
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ORF10_pDH03	GDQVGCDVVEELTLEAPLVVPQRGGVQLQLVVEAP--SGPGQRPFVSVHS
ORF11_pDH01	GDQAGCERVEALVLDAPLALPAEGAVRVQVLVEAP--DEQGRRPFTVSS
ORF12_pDH01	GDQVGCDVVEELTLEAPLVLPERGAVQIQMHVGAPDADGTGRRTFTLSS
ORF12_pDH04	GDEVGCEEVEELVLEAPLVLPKGAQVQLRLSVGGA--DDQGRRSVHVHS
ORF14_pDH02	GDQVGCDYLEELTLEAPLVLPKHGGVQLRVWVGAA--DESGRRPFALHS
ORF14_pDH03	GELVGCGAVEELALEAPLTADQGAQVQFQLAVDAP--DGAGRRTLTLS
ORF15_pDH01	GDQVGCDLLEELTLHAPLVLPAGGVQVQLWVGAP--DATGRRTLGVHS
ORF15_pDH02	GERVGTALDELTLQAPLILPNEGAVQLQVVVGAP--DAAGHRTVAVYS
ORF15_pDH03	GDHAGCDLLEDLTLEAPLVLPKAGGVQLRLVVAEP--DASRRRVFHIYS
ORF17_pDH01	GDHTGCDLLEDLTLEAPLVLPKHGGVQIQAVGAP--DAEGRRSLTLS
ORF17_pDH02	GDQAGCDLLEELTLEAPLILAPQAAARLQIVVGAP--DGSGRRTLDVYS
ORF17_pDH03	GDQVGCDLIDELTLEAPLVLPKHGGVQLRLAVAAA--DATGRRTLAFHS
ORF17_pDH04	GDQVGCDVLEELTLEAPLVVPERGGVQLRLTVAAA--DESGRRGLSLYS
ORF18_pDH01	GDQVGCDLIDELTLAAPLVLPKGGVQLQITVAAP--DESGRRSVAFHS
ORF18_pDH02	GQRVSGLLEELTLEAPLVLPKRGALQLRVSVAAAP--DEAGRRALHVHS
	*: . * : : * . * * * : : * . . . : * . . . *

Figure 5

ORF17_per02	QLAVRRGTVHAPRLARVPAATPLTPPPGESAWRMDIEDKGTLDHLLTVSPESAAPLEPG
AAF71776_mod05 NYST	QLALRDGGVLAARLARFDTAALTPPAD-RAWRLDSTAKGSLNGLALTPYPAALAPLTGH
AAF71767_mod15 NYST	QAVVREGTVRVGRLARLDSGRGLVPPPG-TPWRLGSRAGSLDGLALLPHEARRPLTGH
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ORF17_per02	QVRVAVRAAGLNFRDVLNALGMYPG-DPGLMGSEGAGIVVETGPGVTGLAPGDRVMGMLP
AAF71776_mod05 NYST	EVRVEVRAAGLNFRDVLNALGMYPGDDVGSFGSEAAGVVVEVGPEVTGLAPGDQVMGMIT
AAF71767_mod15 NYST	EVRVGIRAAGLNFRDVLNALGMYPG-DAGLFGSEAAGVVVEVGPEVTGLAPGDRVMGMLF
	: * * * : *
ORF17_per02	GSFGPLAVVDRMIAPMPEGWTFAEAAASVPIVMTAYYALHDLAQLGGESLIVHAAAGG
AAF71776_mod05 NYST	GSFGSLAVDDARRLARLPEDWSWETGASVPLVFLTAYYALKELGGLRAGEKVLVHAGAGG
AAF71767_mod15 NYST	GGFGPLGIADARLLTPVPADWSWETGASVPLVFLTAYYALKELGGLRAGEKVLVHAGAGG
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ORF17_per02	VGMIAVQLARHWGADVYATASPAKWDTLRGLGLGDDRIASSRTLDFEETFRATGGRGVD
AAF71776_mod05 NYST	VGMIAIQLARHWGAEVFATASEGKWDVLRSLGVADDHIASSRTLDFEAAFAEVAGDRGLD
AAF71767_mod15 NYST	VGMIAIQLARHWGAEVFATASEGKWDVLRSLGVADDHIASSRTLDFEAAFAEVAGDRGLD
	* * * * . * . : *
ORF17_per02	VVLDSLAREFVDASLRLLPGRGRFVEMGKTDVRSPOQDVADAHPGVSYQAFDLTEAGLDRI
AAF71776_mod05 NYST	VVLNSLAGDFVDASMRLLGDGGRFLEMGTDIRAADSVPD---GLSYQSFDLAWVVPETI
AAF71767_mod15 NYST	VVLNALSGEFVDASMRLLGDGGRFLEMGTDIRAADSVPD---GLSYHSFDLGMVDPEHI
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ORF17_per02	QEMLTELLTLFRSGALRPVPVSAWDLRQAPEAFRYLSQARHVGKIVLTLP
AAF71776_mod05 NYST	GTMLAELMDLFRTGALRPLPVRTWDVRHAKDAFRFMSMAKHIGKIVLTLP
AAF71767_mod15 NYST	QRMLDLVELFDRGALAALPVRSDVRRAGEAFRFMSLAQHIGKIVLTVP
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ORF10_pKR01 PTGTVLVTGGTGVLCGRVARWLAGA-GAERLVLTSSRGLDAPGAVELVEELTTGFGVEVS
ORF10_pKR02 PTGTVLVTGGTGVLCGRVARWLAGA-GAERLVLTSSRGLDAPGTAELVEELTS-SGVEVS
ORF10_pKR03 PSGTVLVTGATCTTLGGLFARHLVTAYGVRRLLLTSSRGPPEAGAAELVAELEQ-LGAHVE
ORF10_pKR04 PTGTVLVTGGTGVLCGRVARWLAGA-GAERLVLTSSRGPDPAGAAELVEELTTGFGVEVS
ORF10_pKR05 PRGTVLVTGGTGCALGSHVARWLAH-GAEHLVLTSSRGPQAPGADALVAEIAA-LGAGAT
ORF11_pKR01 PAGTVLITGCGSCTLAGIVARHLATAHGVRRLLLTSSRGADAPGAGELTAELAG-LGAQVS
ORF11_pKR02 PRGTVLVTGGTGCALGRHVARHLAER-GAERLVLTSSRGADAPGAAETEAELSA-FGAAVT
ORF12_pKR01 PGSTVLITGACGMLCGLIARRLVAEHGVRHLLLVGRRGAAPGAEQLSAELAE-AGASVT
ORF12_pKR02 PTGTVLVTGGTGVLCGRVARWLAGA-GAERLVLTSSRGPDPAGAAELVEELTTGFGVEVS
ORF12_pKR03 PTGTVLVTGGTGVLCGRVARWLAGA-GAERLVLTSSRGPDPAGAAELVEELAG-SGVEVS
ORF12_pKR04 PRGTVLITGASGGLAGLFAHRLVAEHGVRHLLLTSSRGAAGAAQLADELVA-LGAQVT
ORF13_pKR01 PQGTTLVTTGGTCALGAHVARWLAGN-GAEHLLTSSRGPDPAGAAELDELTA-LGTQVT
ORF14_pKR01 TTGTALTTCGCTGALGRHVARWLART-GAQHLLTVSSRGPPEAGADALAAELRA-LGA EVT
ORF14_pKR02 PGGTVLITGATGCALGGLFARHLAAEHGVERLLLVGRRGADAPGAAELVAELAE-SGTLAT
ORF14_pKR03 ADGTVLVTGASGTLGGLFARHLATTHGARHLLLTSSRGDRAPGAGELTRELTE-AGVDVT
ORF15_pKR01 PDGTVLVTGASGTLGGLVARHLVTGRGVRLLLTSSRGADAPGAGELAAELTG-LGAEVS
ORF15_pKR02 VDGTVLVTGASGTLGGLFARHLVVERGVRLLLTSSRGAAGAAELGAELTE-LGADV
ORF15_pKR03 PEGTVLITGASGTLGGLARHLVTEHGVRHLLLTSSRGAAGAGATQLADELVT-LGAQVT
ORF16_pKR01 PQGTTLVTTGGTCALGAHVARWLAEN-GAEHLLTSSRGPDPAGAAALRDELTA-LGAQVT
ORF16_pKR02 PQGTTLVTTGGTCALGAHVARWLAEN-GAEHLLTSSRGPDPAGAAELDELTA-LGAQVT
ORF17_pKR01 PDGTALVTGATCTTLGGLVARHLVAAHGVRHLLLTSSRGEAAGAAELAAGLRE-LGA EVT
ORF17_pKR02 SQGTVLITGCTGTLGA VVARHAVTTRGARRLLLTSSRGEAAGAAELAAELRE-LGA EVT
ORF17_pKR03 VDGTVLVTGASGTLGGLFARHLVVERGVRLLLTSSRGEAAGAAELGAELTE-LGADV
ORF17_pKR04 SDGTVLVTGASGTLGGLFARHLVVERGVRLLLTSSRGAAGAAELGAELTE-LGADV
ORF18_pKR01 PDGTVLVTGASGTLGGLFARHLVVERGVRLLLTSSRGEAAGAAELGAELTG-LGADV
ORF18_pKR02 PDGTVLITGCTGSLGLARHLVVEHGVRHLLLTSSRGAAGAPELVAALAE-LGA EAT

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ORF10_pKR01      SALNLHELTAELGIELSDFVLFS SVTGTVGAAGQANYAAANAFLDALAEQRRADGLAATS
ORF10_pKR02      SALNLHELTAELGIELSAFVLFS SMSGTGVTAGQANYAAANAYLDALAEQRRADGLAATS
ORF10_pKR03      AAWNHLHELTRREL--GLSAFVLFS GAAAAGFAAGQGNVAAANSFLEALAEQRRADGLPATS
ORF10_pKR04      SAFNLHELTAELGIELSAFVLFS SMSGTVGAAGQANYAAANAYLDALAEQRRADGLAATS
ORF10_pKR05      GAAHLDELLGD--TELDFAFVLFS SIAGVWWSGGQSNVAAANAHLDALAQRRRARGLTATS
ORF11_pKR01      AALHLHELTRDL--PLTAFVLFS AIAGTLGSAGQANYAAANVFLDALAQHRHDQDLPATS
ORF11_pKR02      GAVHLDALFDAP--DSLDAFVLFS SIAGVWWSGGQGNVAAANTFLDTLAERRRARGLAATA
ORF12_pKR01      AACNLHELTRHL--DLTAFVLFS SIGGVFGGPGQGNVAAANVFLDALAQHRRSQGLAATS
ORF12_pKR02      SALNLHELTAELDIELSAFVLFS SMSGTVGAAGQANYAAANAFLDALAEQRRADGLAATS
ORF12_pKR03      SAINLHELTAELGIELSAFVLFS SVTGTWGTAGQANYAAANAYLDALAEQRRADGLAATS
ORF12_pKR04      AALHLHELTKDL--DLSAFVLFS AAAGTLGGAGQANYAAANVFLDALARHRTARGLTALS
ORF13_pKR01      ATLILHELTRGL--DLSAFVLFS SFAATFGAPGQGNQAPGNAYLDAFAEYRRSGSLPATS
ORF14_pKR01      AAQVLHELTRDL--DLSAFVLFS SVAAVFGAAGQANYAAANASLEALAEQRRADGLPATV
ORF14_pKR02      AAWNHLHELTRGL--DLAAFVLFS STSGLFGGPGQGNVAAANSFLDALAQHRRRAHGLPATS
ORF14_pKR03      AAWNHLHELTEGH--DLAFAFVLFS SVAGCFGAAAGQGNVAAANTFLDALAQHRRKARGLTASS
ORF15_pKR01      AALHLHELTRDL--PLTAFVLFS SAAGVFGAPGQGNVAAANSFLDALAQYRRRAHGLPGRS
ORF15_pKR02      AAWNHLHELTRGL--DLSFVLFS SAAGVFGGAGQANYAAANVFLDALAQHRRRAQGLAATS
ORF15_pKR03      AAWNHLHELTHGL--DLAAFVLFS SAAGVFGNAGQANYAAGNTFLDALAQHRRRAQGLTAVS
ORF16_pKR01      ATLLHLHELTREL--DLSAFVFFS SFAATFGAPGQGNVAPGNAYLDAFAEYRRRASGLPATS
ORF16_pKR02      AALTHLHELTREL--GLSAFVLFS GVAGTLGDAGQGNVAAANSYLDALAEQRRHADGLAATS
ORF17_pKR01      AAVHLHELTRREL--DLAAFVLFS AAAGTLGGPGQANYAAANTFLDALAHRHRAEGLPATA
ORF17_pKR02      AAWNHLHELTRHL--DLADFVLFS SAAGTFFGGAGQANYAAANVFLDALARHRRRAHGLAATS
ORF17_pKR03      AAWNHLHELTRGL--DLSFVLFS SAAGVFGGAGQANYAAANVFLDALAQHRRRAQGLAATS
ORF17_pKR04      AAWNHLHELTRGL--DLSFLLFS SAAGVFGGAGQANYAAANVFLDALAQHRRRAQGLAATS
ORF18_pKR01      AAWNHLHELTRGL--DLSFVLFS SAAGVFGGAGQANYAAANVFLDALAQHRRRAQGLAATS
ORF18_pKR02      AALHLHELTRGL--DLAAFVLFS SAAGTLGNPGQANYAAANAFLDALAQHRRRAAGLPAVS

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Figure 7

ORF10_pAC00	SAALRDAAPDTLDPHRPFLDLGFD	SLAAVDLHARLVAGTGLRLPVTLAFDHPTPAHLARHLH
ORF10_pAC01	AAVLGHDGSDAVGAERAFKELGFD	SLTSVELRNRLGAATDLRLPTTLVVDYPTSAALAEYLR
ORF10_pAC02	AAVLGHAGVENVGAGRAFKELGFD	SLMAVELRNRLRIGSATELRLPATLIYDHPTSAALAEFLR
ORF10_pAC03	AEVLGHTDARAVDADRAFKELGFD	SLTAVELRNVLKAATGLRLSPTLVFDYPTPVALARHLL
ORF10_pAC04	AAVLGHGGSEAVGAERAFKELGFD	SLTAVELRNRLGAATGVRLPATLIFDYPTATALAAYLR
ORF10_pAC05	AVVLGHGGATAVEAARAFKELGFD	SLTAVELRNRLSTATGLRLPASLVFDYPTPAALAAHIR
ORF11_pAC01	ASVLGHASAEQVDPARAFKDLGFD	SLTAVELRNRLGAATGLRLPTTLVFDHPTPTALVRHLR
ORF11_pAC02	ATALGHTSADAVAAERAFKDLGFD	SLTAVELRNRLGAACGLRLPSSLVFDYPTNPQALTRHLL
ORF12_pAC01	AAALGYPGPSAVEPGRSFKELGFD	SLTAVELRNLLGDATGRRLPATLVFDYPTATALAGYLR
ORF12_pAC02	AEVLGHSGAEDIEAGRAFREIGFD	SLTAVELRNRLGAAELRLPATLVVDYPTPAALAVHLR
ORF12_pAC03	AAVLGHAGVESIGAARAFKELGFD	SLTAVELRNRLGAVTGLRLPATLIYDYPTSGALAEYLR
ORF12_pAC04	AAVLGYGSAEHIGGEQAFKELGFD	SLTAVELRNRLGAAGGLRLPATLIYDYPNPAALAQHLL
ORF13_pAC01	AAVLGHADLAAVEAGRAFKELGFD	SLTSVELRNRLGAVSGLKLPASLVFDHPTPAAVAAFLR
ORF14_pAC01	AAVLGYAGPESVDPGSAFRDLGFD	SLTAVEIRNLLTSRTGLRLPATLIFDYPTNSLSLAAFLQ
ORF14_pAC02	AAVLGHAGPAAVESGRAFKELGFD	SLTAVELRNRLNAATALRLPATLIFDYPTDPTVLARYLR
ORF14_pAC03	AAVLGYAGPDDVDAARGFLDLGFD	SLTAVDLRNRLTASAGLRLPVTLIFDYPTSPALAAAYLA
ORF15_pAC01	ADVLGHGSPDAIDPEQAFSELGFD	SLTAVELRNRLGAAIGRRLPATLIFDHPASLTARHLS
ORF15_pAC02	AAVLGYASPEAVEKDSSEFRELGFD	SLTAVELRNLLGAATGLRLPATLVFDYPTSAVLADHLR
ORF15_pAC03	AQVLGHSGAAAIIEPGSAFKELGFD	SLTAVELRNRLGAVTGLRLPATLIFDYPTPEALSGHLR
ORF16_pAC01	AAVLGYAGPDAVEAGRAFKELGFD	SLTSVELRNRLNAASGLKLPPTLVFDHPTPTVLARHLR
ORF16_pAC02	ATALGHPTTDEVGAGRAFKELGFD	SLIALELRNRLNAATGLRLPATLVFDHPTPTILAEFLR
ORF17_pAC01	AAVLGYPGPEAVDPGRAFKELGFD	SLTAVELRNRLGSATGVRLPATLVFDYPTPNALSAFLR
ORF17_pAC02	AAVLGHATPDAVEPTRAFKDLGFD	SLTAVEFRNRLGATAGIRLPATLVFDYPTPTVLAGYLR
ORF17_pAC03	AAVLGHASTDEVPADRAFKELGFD	SLTSVELRNRLGATTGERLSATLVFDYPTPHALAEFLR
ORF17_pAC04	AAVLGFAGPEAVDPARSFSEVGFDS	SLTAVELRNRLGAATGVRLPATLVFDYPTPDALVEYLR
ORF18_pAC01	AAVLGLAGPEAVDPARSFSEVGFDS	SLTAVELRNRLGAATGVRLPATLVFDYPTSLALADFLG
ORF18_pAC02	AAVLAYPSPDAVGESQEFLEGLD	SLTAVELRNQLNAATGLRLPATLLFDHPTPALVAERLR
	: . *	: * : * : * * * : : : : : : * . : * : * * . : :

Figure 8

ORF18_pTE02 AAF71777 NYST	---RGDTRPGLVCFSSILSISG-----PHQ-----YARFASAFRGRRDVHALGAPG--F MTTSTEEESLWARCFHPAPAAPVRLFCFPHAGGSASFYFPVSAQLSSVAEVFAIQYPGRQD * * . : . * * * . : : . : * . * : * *
ORF18_pTE02 AAF71777 NYST	LRGEQLPSATDAVIEAQAEAVLRHADGAPFVLLGHSSGGMLAHAVAGRLESEG----- RRKEAGVSDLATLADQVYDALRPLLKERPSTFFGHSMGATLAFEVARRFEADDGDLVRLF * * * : : : : * : . * . : : * * * . * * . * * * : : .
ORF18_pTE02 AAF71777 NYST	----VFPQALVMIDIYSHDDDAIIGIQPGLSEGMDERQDTYVPVDDNRLLAMGAYFRLFG ASGRRAPSRVREEAVHRRSDDGIVEELK-LLAGTNTALLGDEEILRMILPAIRSDYQAIE * . : : : : * * . * : * * : : * * : : : :
ORF18_pTE02 AAF71777 NYST	GWK--PEVVKTPTLLVRAGERFFDWTRSTDGDWRSYWDLHTALDVPENHFTMMEEHAPT TYRCPPDVTVRAPLTVLTGDRDPKTSLDEAEAWRGHTTGDFDLKVLPGGHF-FVSSEAPA : : * : * . . . * * : * : * . : . * * : : * . : * * * . : : : * * :
ORF18_pTE02 AAF71777 NYST	TAQAVEGWLDTTG IIDLLRAHLAGNG : : . . * . *

Figure 9

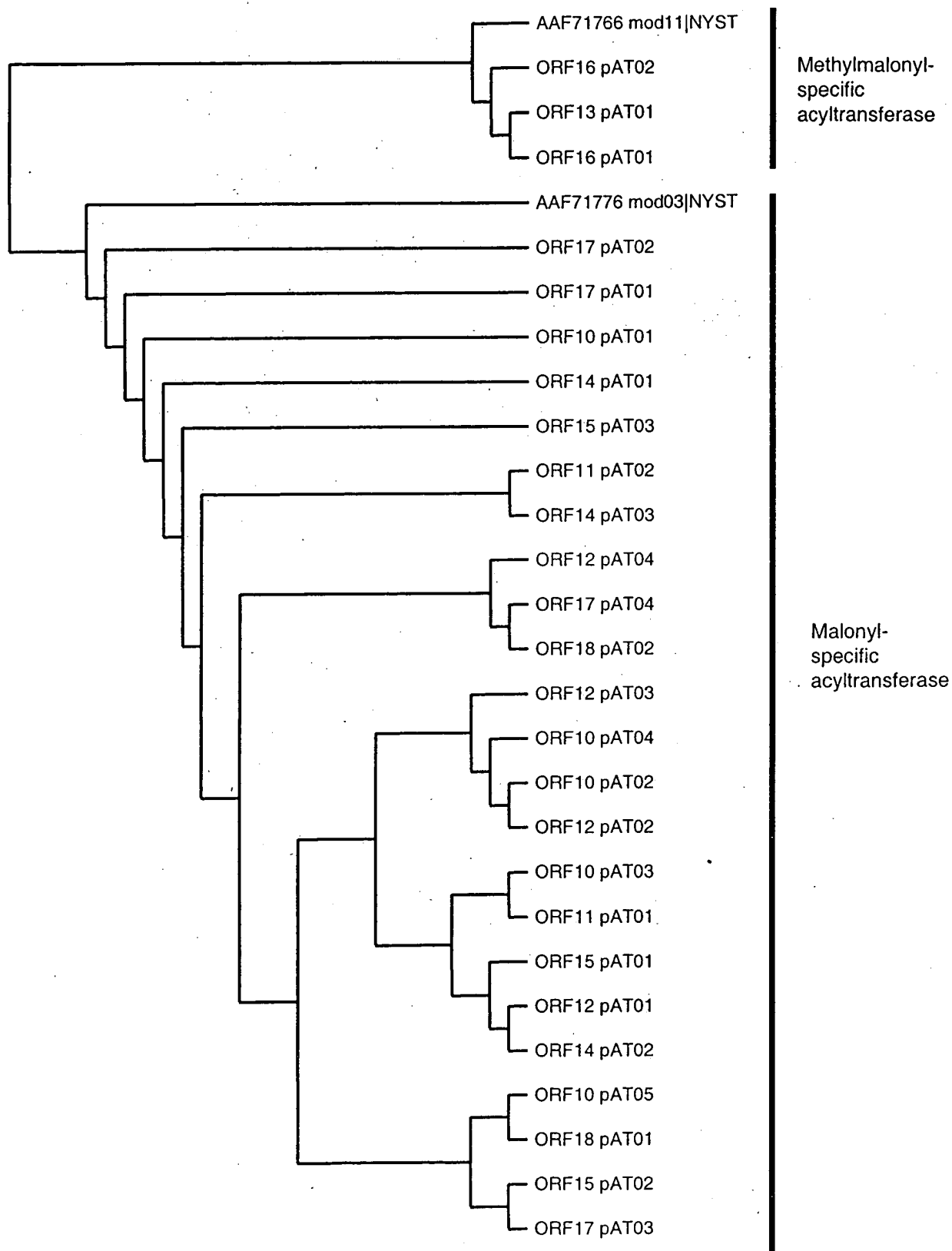
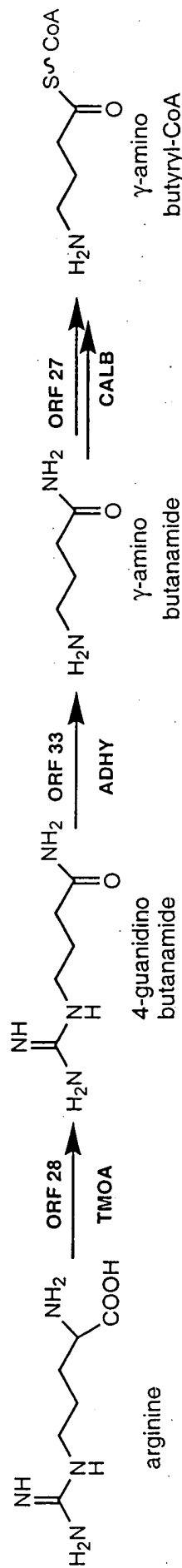


Figure 10

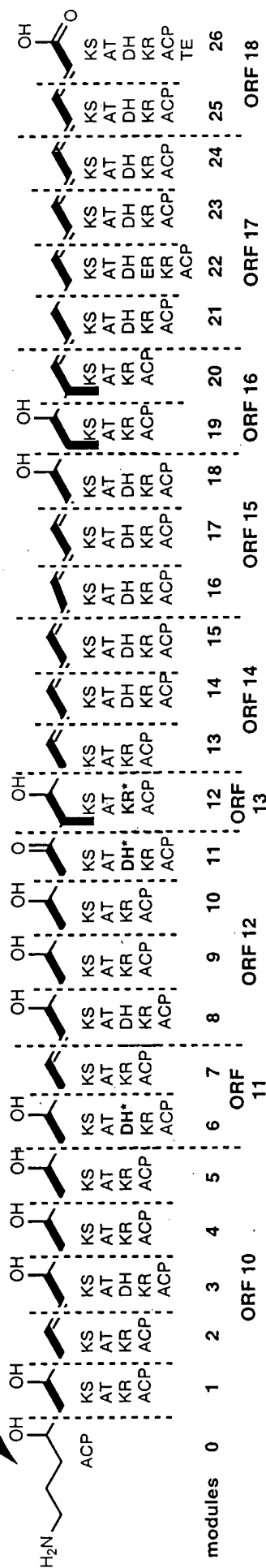
a



b

γ -amino butyryl-CoA

ORF 19
AYTF



c

dNDP-L-rhamnose

ORF 9
GTFA

aminohydroxy cyclopentenone

ORF 34
ADSN

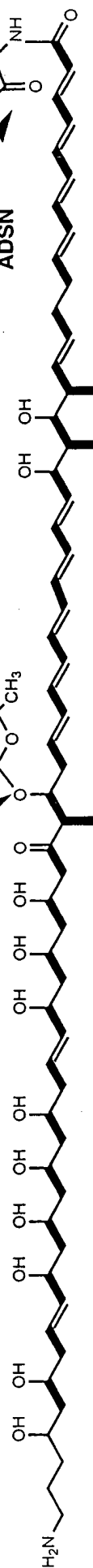
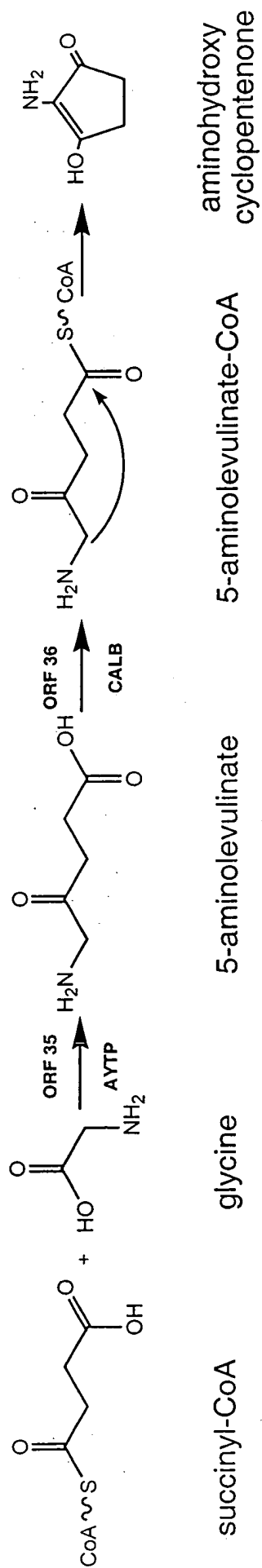
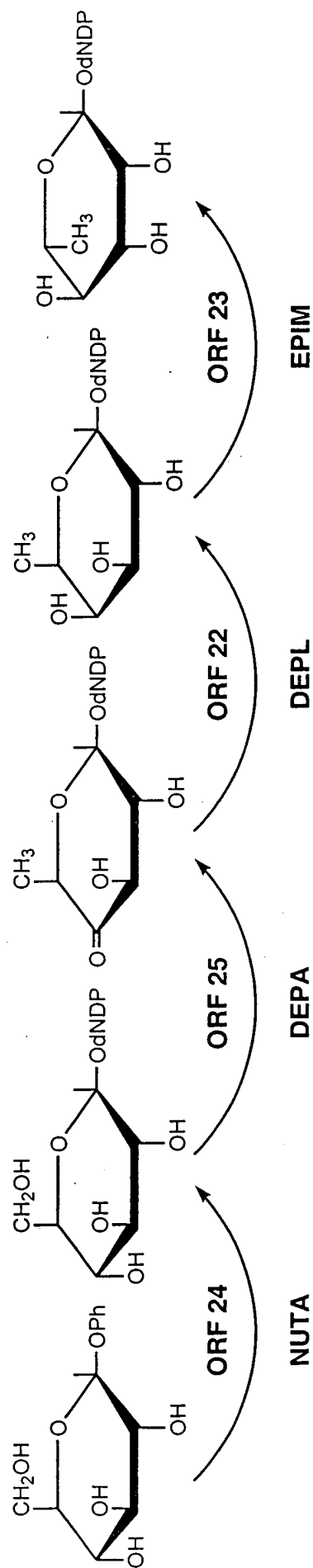


Figure 11

a



b



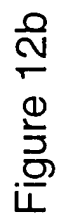


Figure 12c

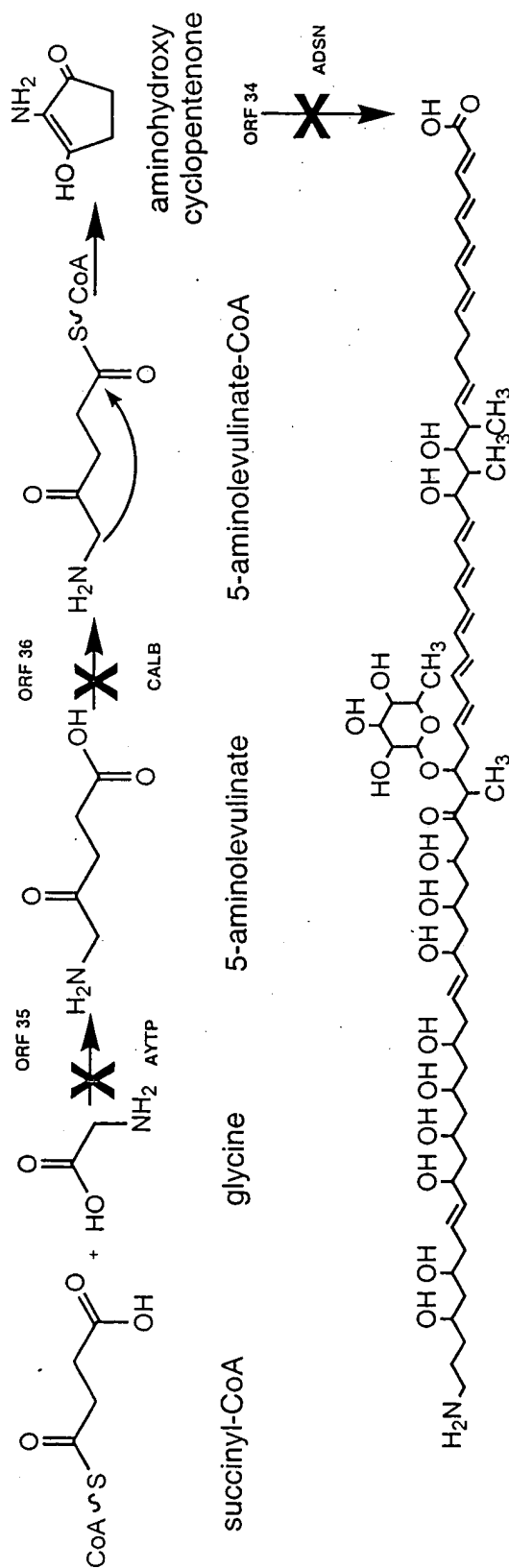


Figure 12d

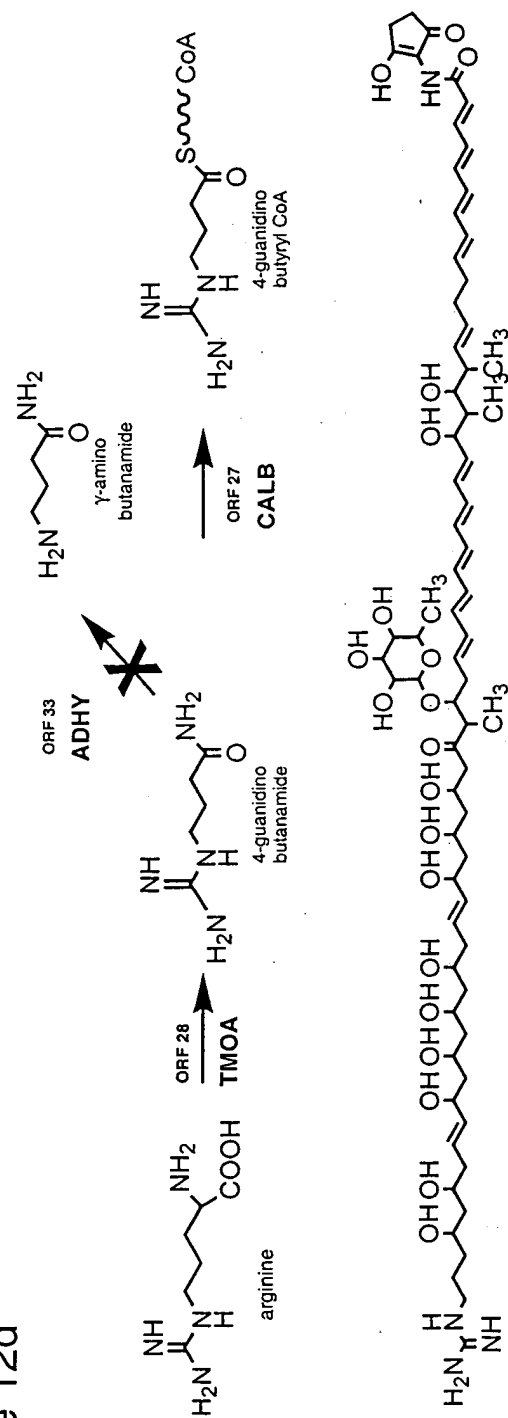


Figure 12e

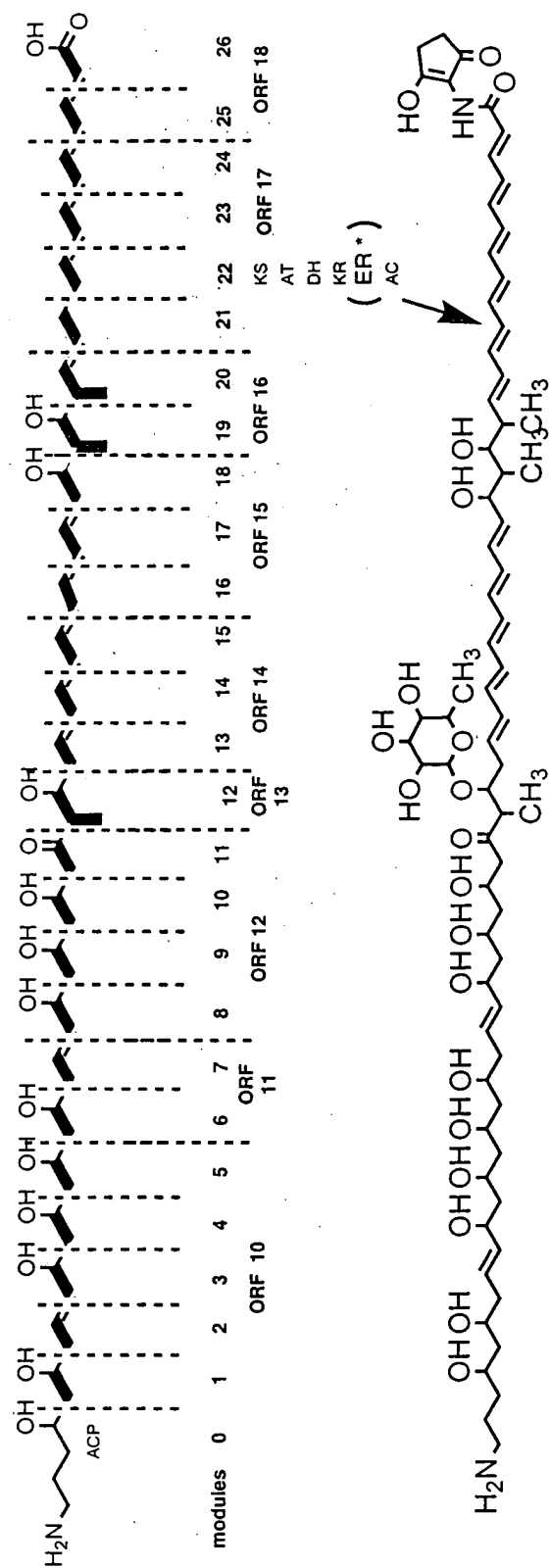
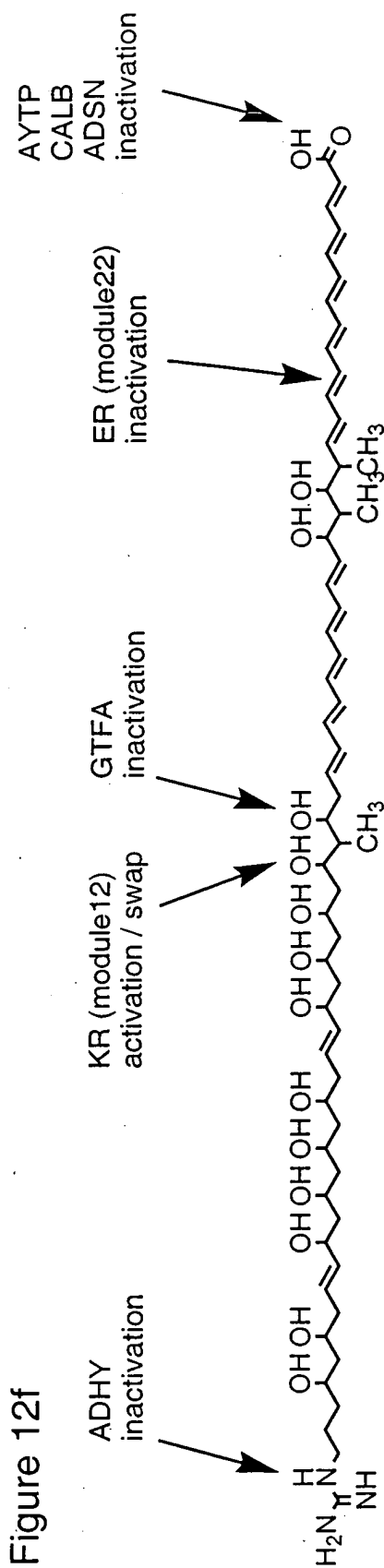


Figure 12f



023X04QB1_R1

023QBA0704c01_R1 1194 (31.880) Cm (1185:1207)

2: Scan ES+
8.34e7

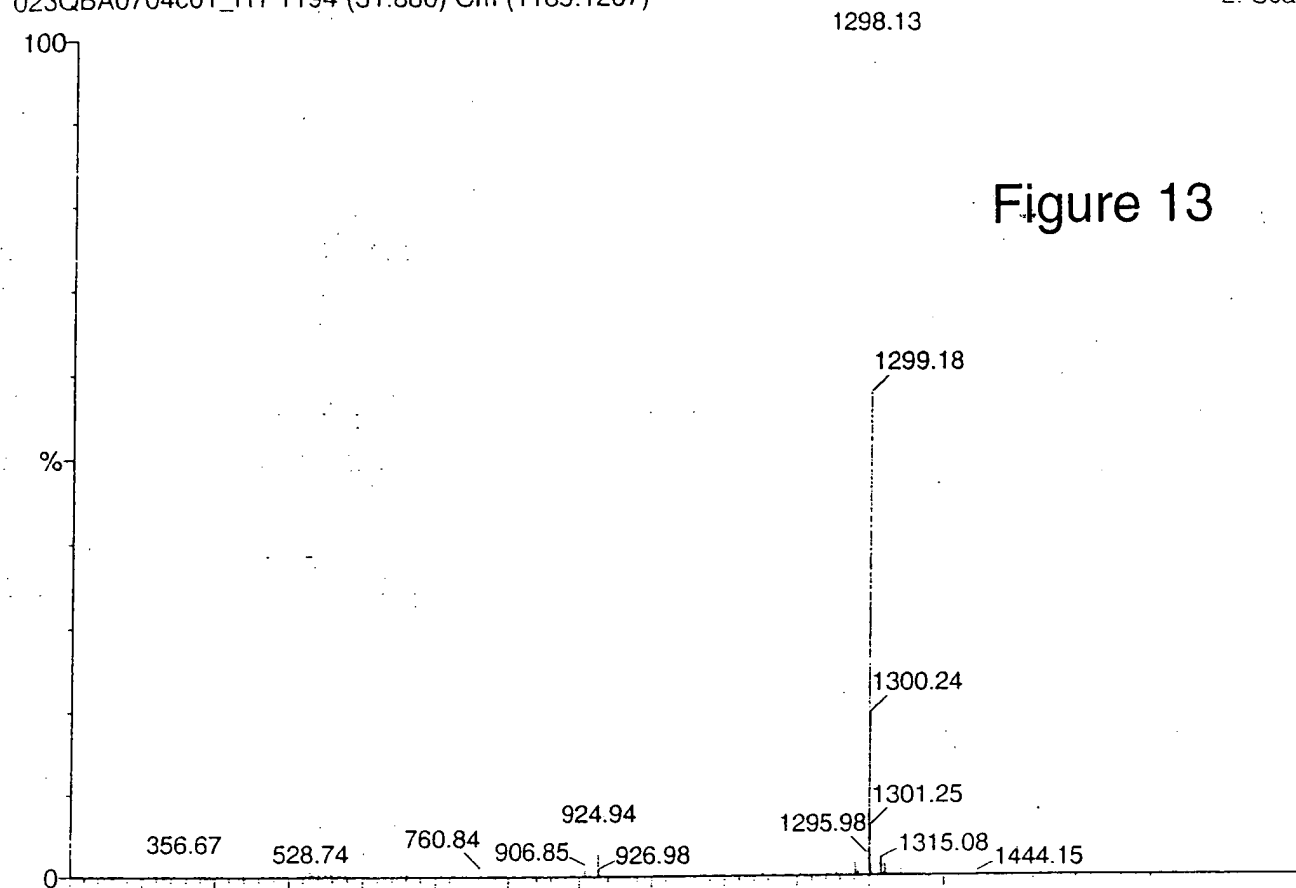
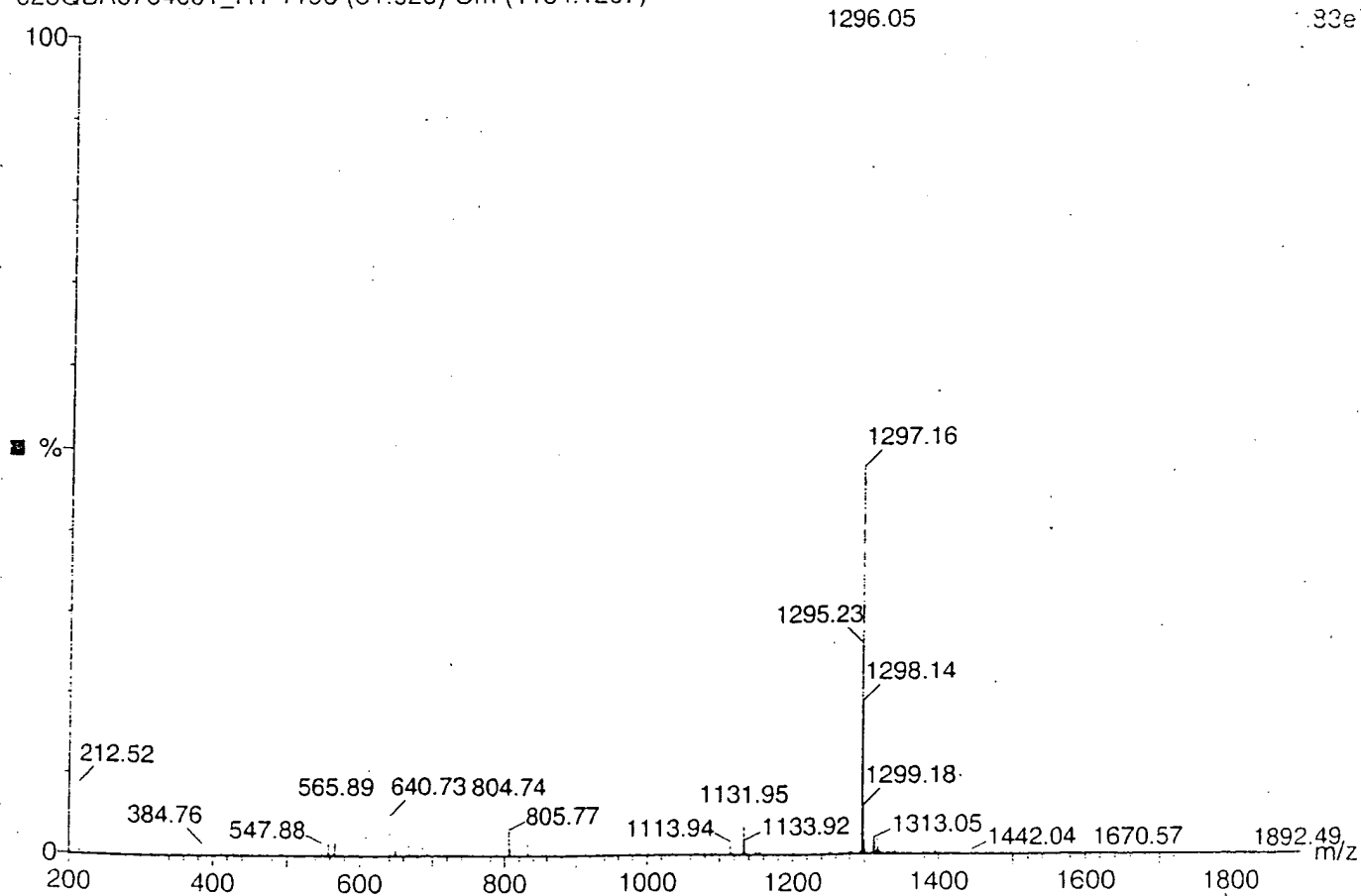


Figure 13

023QBA0704c01_R1 1196 (31.920) Cm (1184:1207)

1: Scan ES-
8.33e7



023X04QB1_R1

023QBA0704c01_R1 1922 (32.135)

3: Diode Array
2.10e6

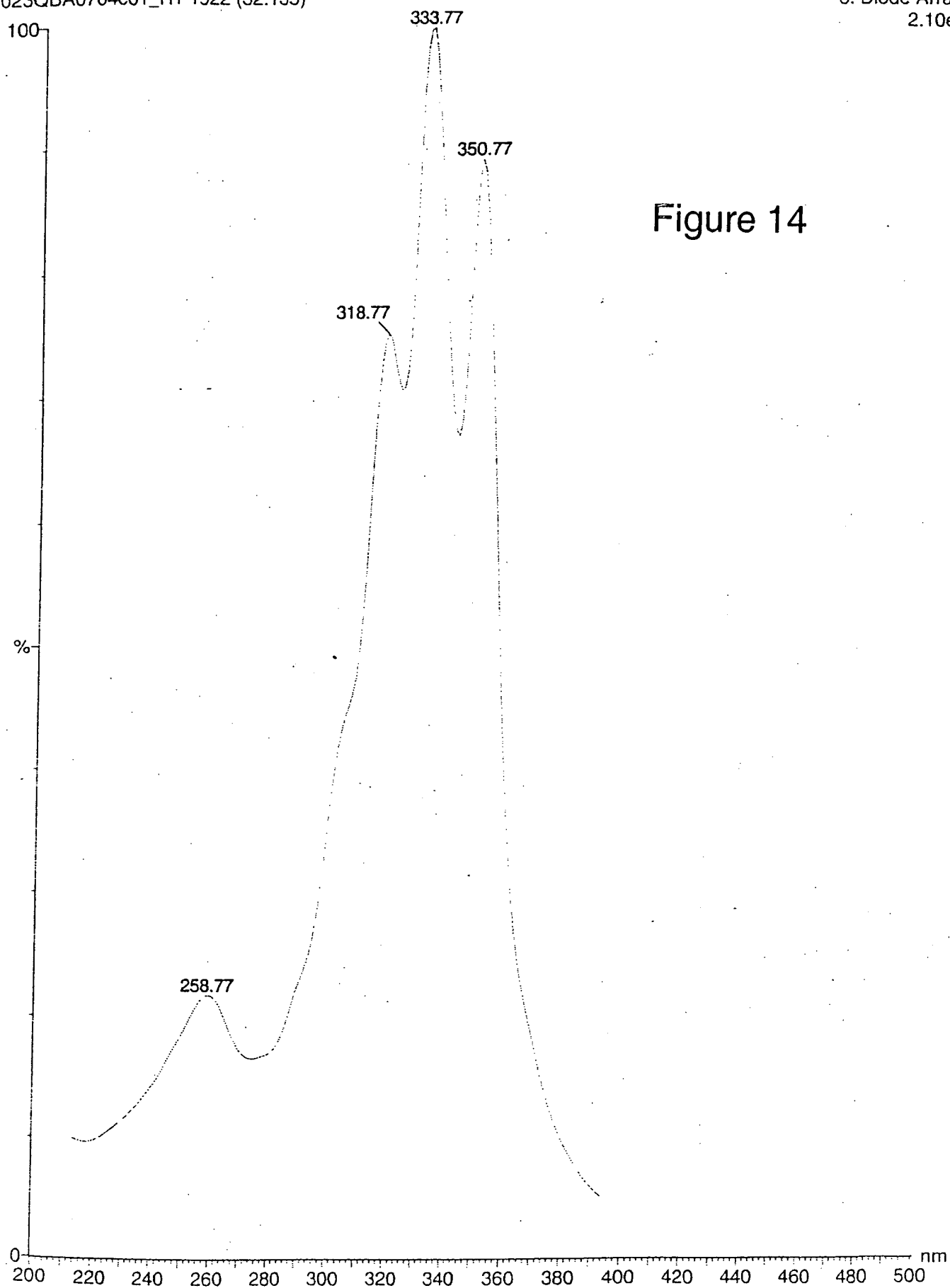


Figure 14

ECO02301_proton_MeOH_spinning

exp2 szput

date	Sep 24 2002	DEC. & VT	125.674
solvent	CD300	dn	C13
file	/export/home/~dpwr	dpwr	30
nmr1/ECO02301/ECO~		dof	0
02301_MeOH_proton_~		dm	nnn
spinning.fid		dmm	.c
ACQUISITION		dmf	200
sfrq	499.752	dseq	
tn	1.892	HI	1.0
at	30272	homo	n
np	8000.0	wtfile	
sw	not used	proc	not used
fb	32	fn	f
bs	59	math	
tpwr	5.5	werr	
pw	0	wexp	
dl	0	wbs	
tof	32	wnt	
nt	32	wft	
ct	32		
alock	n		
gain	26		
flags			
ll	n		
ln	n		
dp	y		
hs	nn		
display			
sp	-122.1		
wp	3836.9		
vs	5471		
sc	0		
wc	250		
hzm	15.35		
ls	7547.31		
rfl	1509.3		
rfl	0		
th	5		
ins	3.000		
nm			
cdc			
ph			

Figure 15a

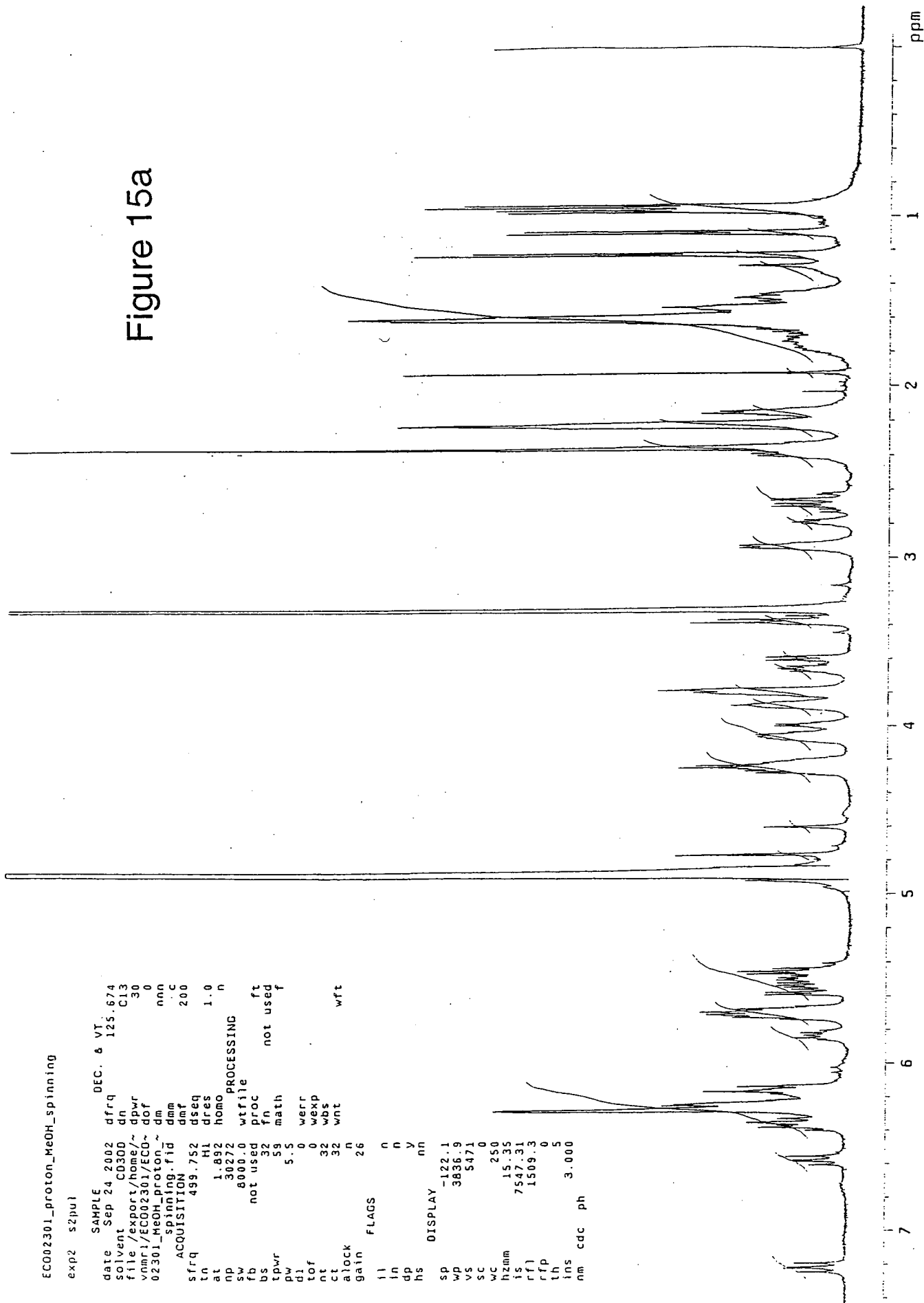
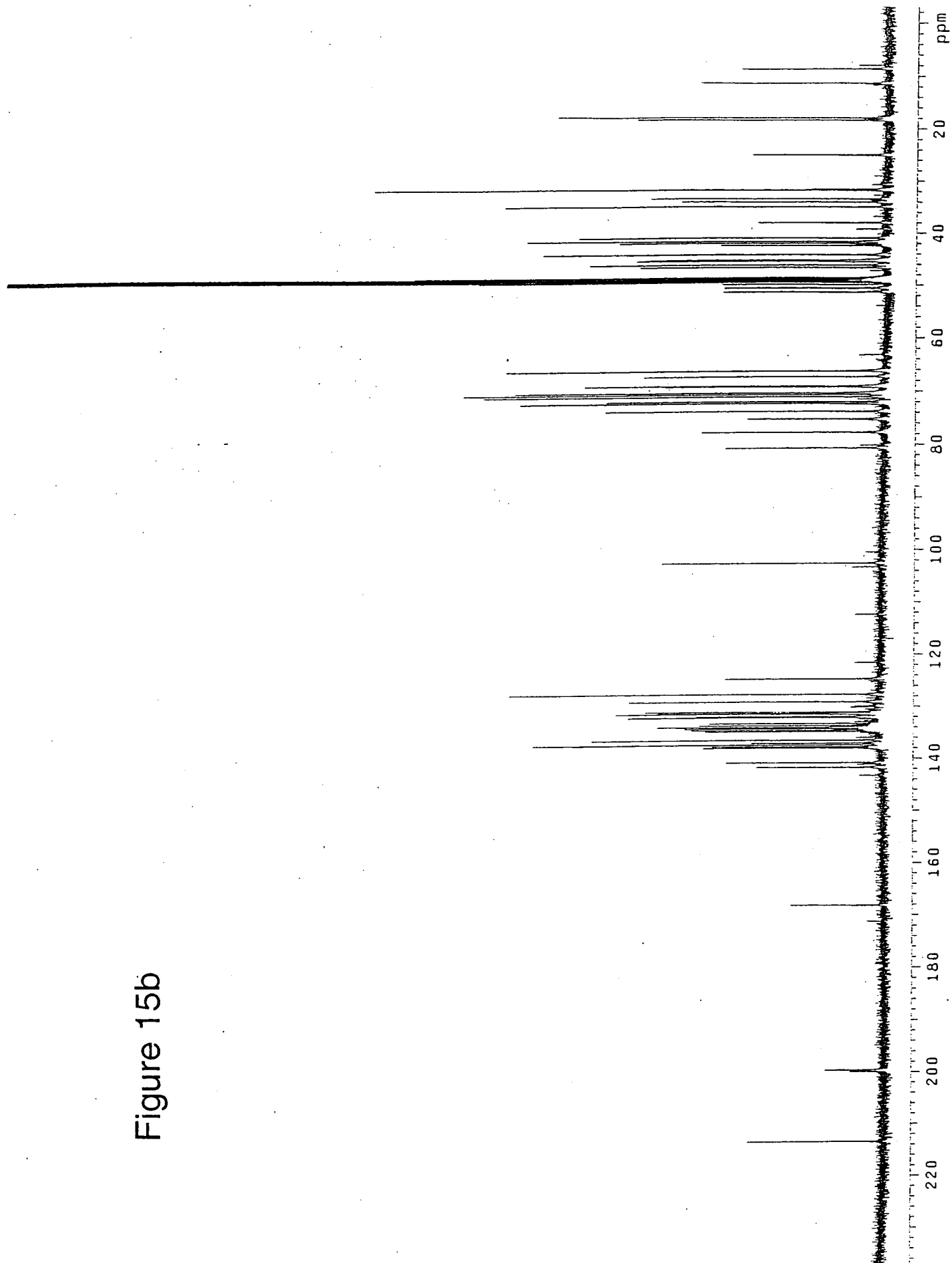


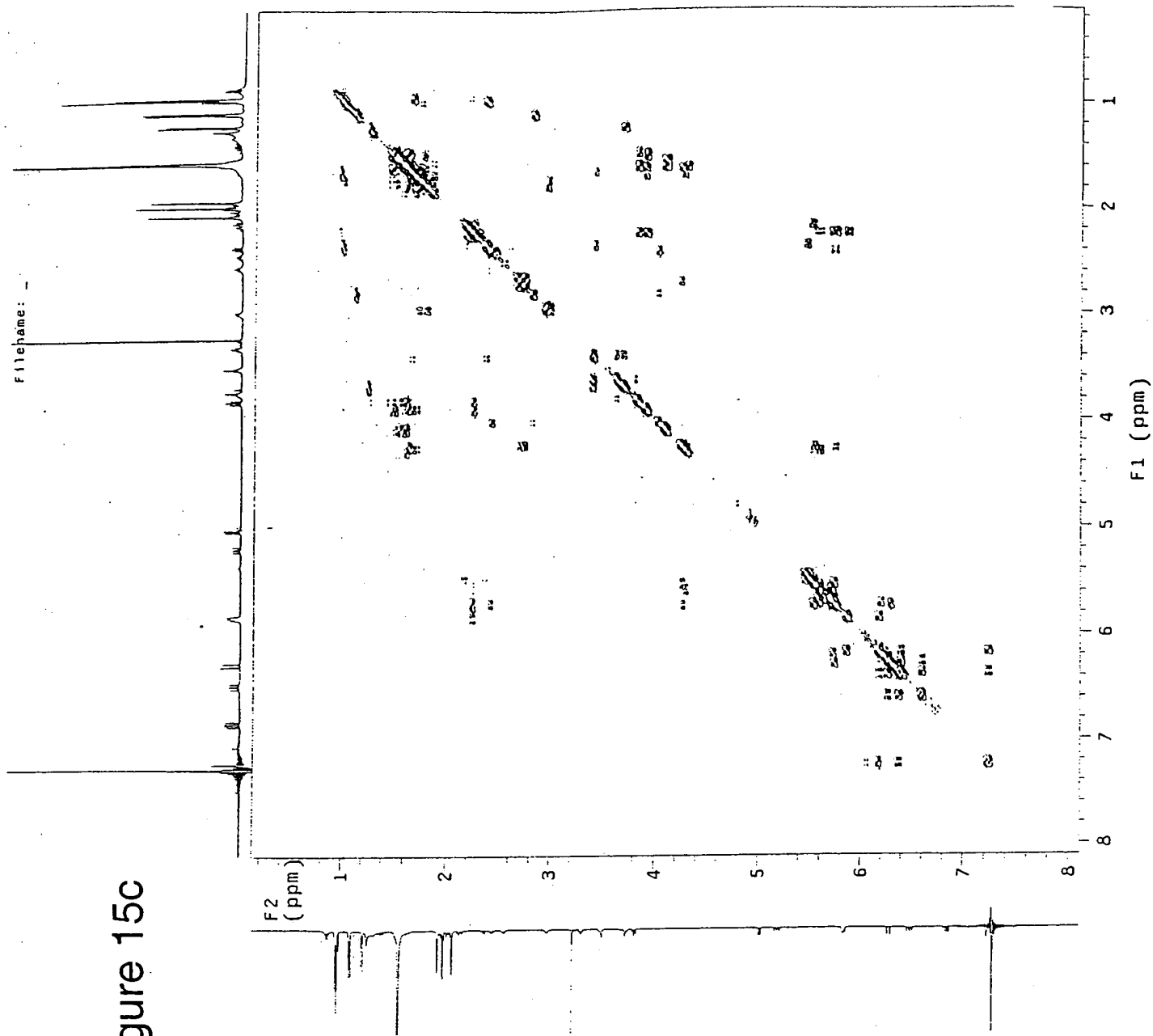
Figure 15b



STANDARD PROTON PARAMETERS
Pulse Sequence: gDQCOSY
Solvent: CD300
Ambient temperature
File: ECD_02301_gDQCOSY_CD300_high_res
INOVA-500 "resonance"

Relax. delay 1.000 sec
Acq. time 0.128 sec
Width 3988.0 Hz
20 Width 3988.0 Hz
32 repetitions
2 x 500 increments
OBSERVE HI, 499.7495714 MHz
DATA PROCESSING
Sf. sine bell 0.096 sec
Shifted by -0.064 sec
F1 DATA PROCESSING
Sf. sine bell 0.037 sec
Shifted by -0.025 sec
FT size 8192 x 6192
Total time 10 hr, 48 min, 6 sec

Figure 15c



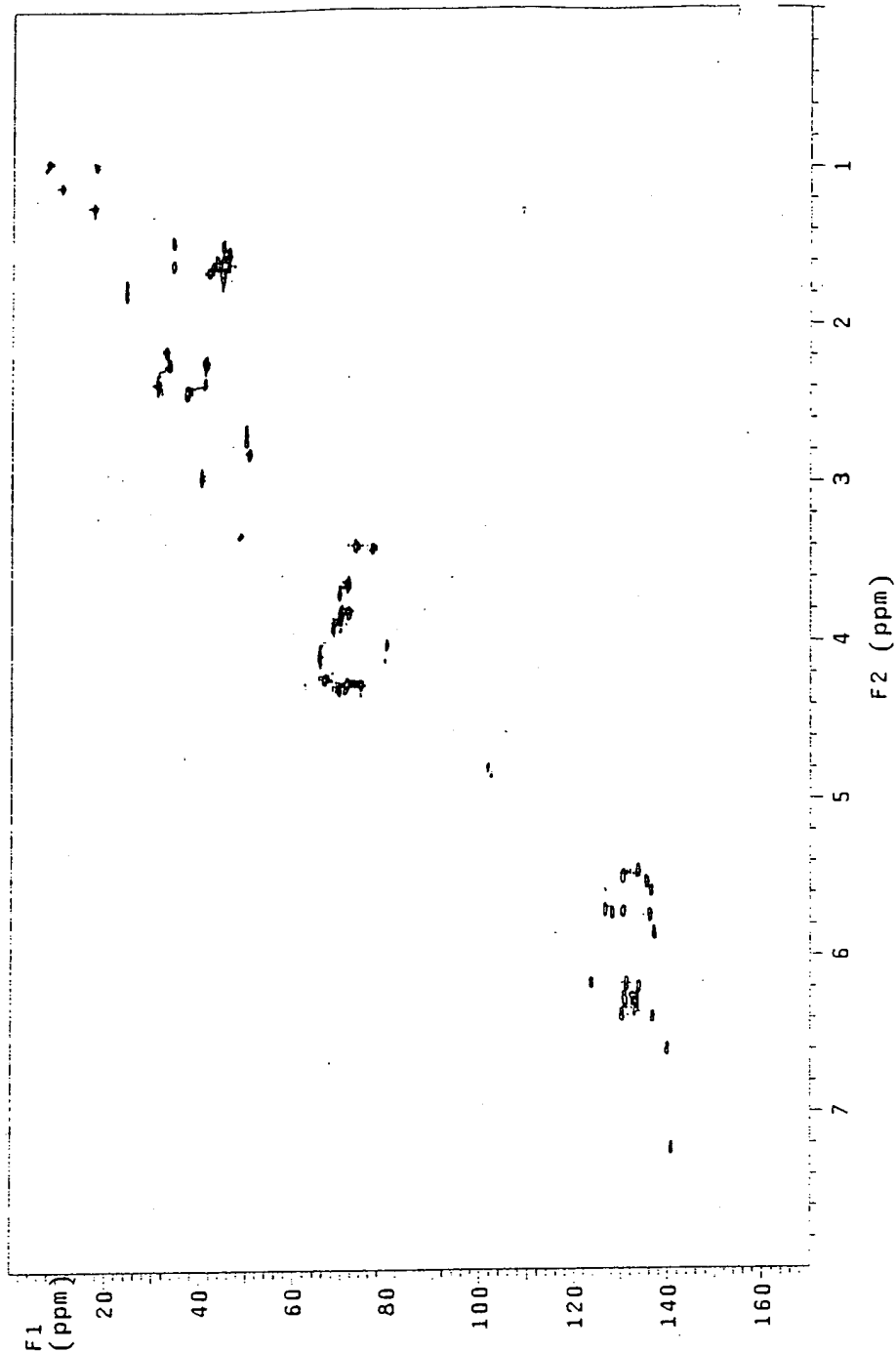
STANDARD PROTON PARAMETERS

Pulse Sequence: ghsqc
Solvent: CD300
Ambient temperature
File: ECO-02301_CD300_ghsQC_12_02
INOVA-500 "resonance"

Relax. delay 1.000 sec
Acq. time 0.128 sec
Width 4001.6 Hz
20 Width 21361.8 Hz
64 repetitions
2 x 128 increments
OBSERVE H1, 499.7495714 MHz
DECOUPLE C13, 125.6727810 MHz
Power 40 dB
on during acquisition
off during delay
W40 id4719 modulated
DATA PROCESSING
Gauss apodization 0.059 sec
F1 DATA PROCESSING 0.022 sec
Gauss apodization 0.022 sec
F1 size 2048 x 2048
Total time 5 hr, 28 min, 9 sec

Filename: --

Figure 15d

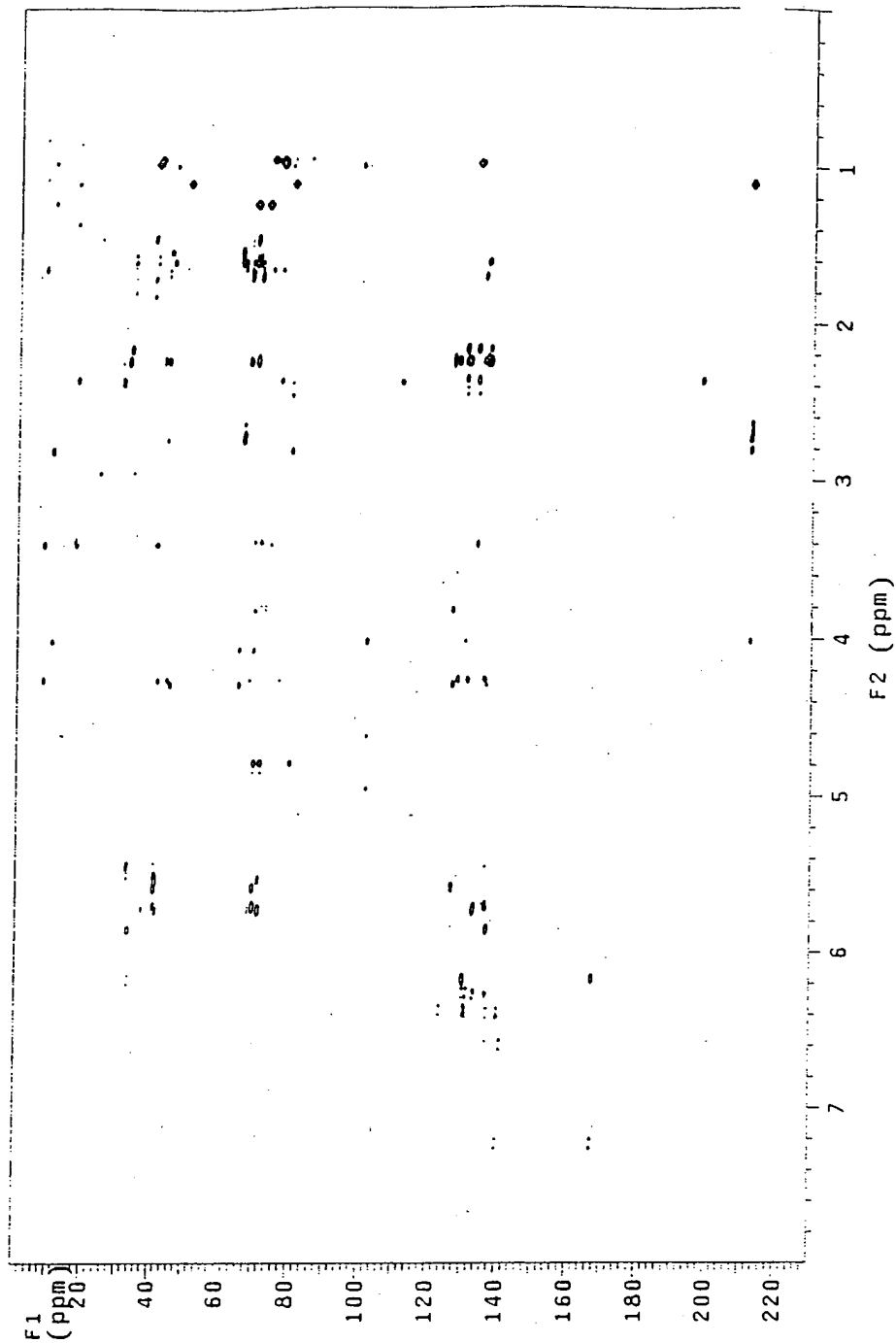


STANDARD PROTON PARAMETERS

Pulse Sequence: gHMBC
 Solvent: CD30D
 Ambient temperature
 File: E0002301_CD30D_gHMBC_12_02
 INOVA-500 "resonance"
 Relax. delay 1.000 sec
 Acq. time 0.128 sec
 Width 4001.6 Hz
 2D Width 28901.7 Hz
 128 repetitions
 400 increments
 OBSERVE H1, 499.7495714 MHz
 DATA PROCESSING
 Sine bell 0.064 sec
 F1 DATA PROCESSING
 Sine bell 0.007 sec
 FT size 2048 x 4096
 Total time 17 hr, 18 min, 49 sec

Filename: _

Figure 15e



STANDARD PROTON PARAMETERS

Pulse Sequence: TOCSY
 Solvent: CD300
 Ambient temperature
 File: 02301_CD300_TOCSY_mix_08
 INOVA-500 "resonance"
 Relax. delay 1.000 sec
 Mixing 0.080 sec
 Acq. time 0.128 sec
 Width 4001.6 Hz
 2D Width 4001.6 Hz
 32 repetitions
 2 x 200 increments
 OBSERVE H1, 499.7495714 MHz
 DATA PROCESSING
 Gauss apodization 0.059 sec
 F1 DATA PROCESSING
 Gauss apodization 0.046 sec
 FT size 2048 x 2048
 Total time 4 hr, 29 min, 30 sec

Filename: _

Figure 15f

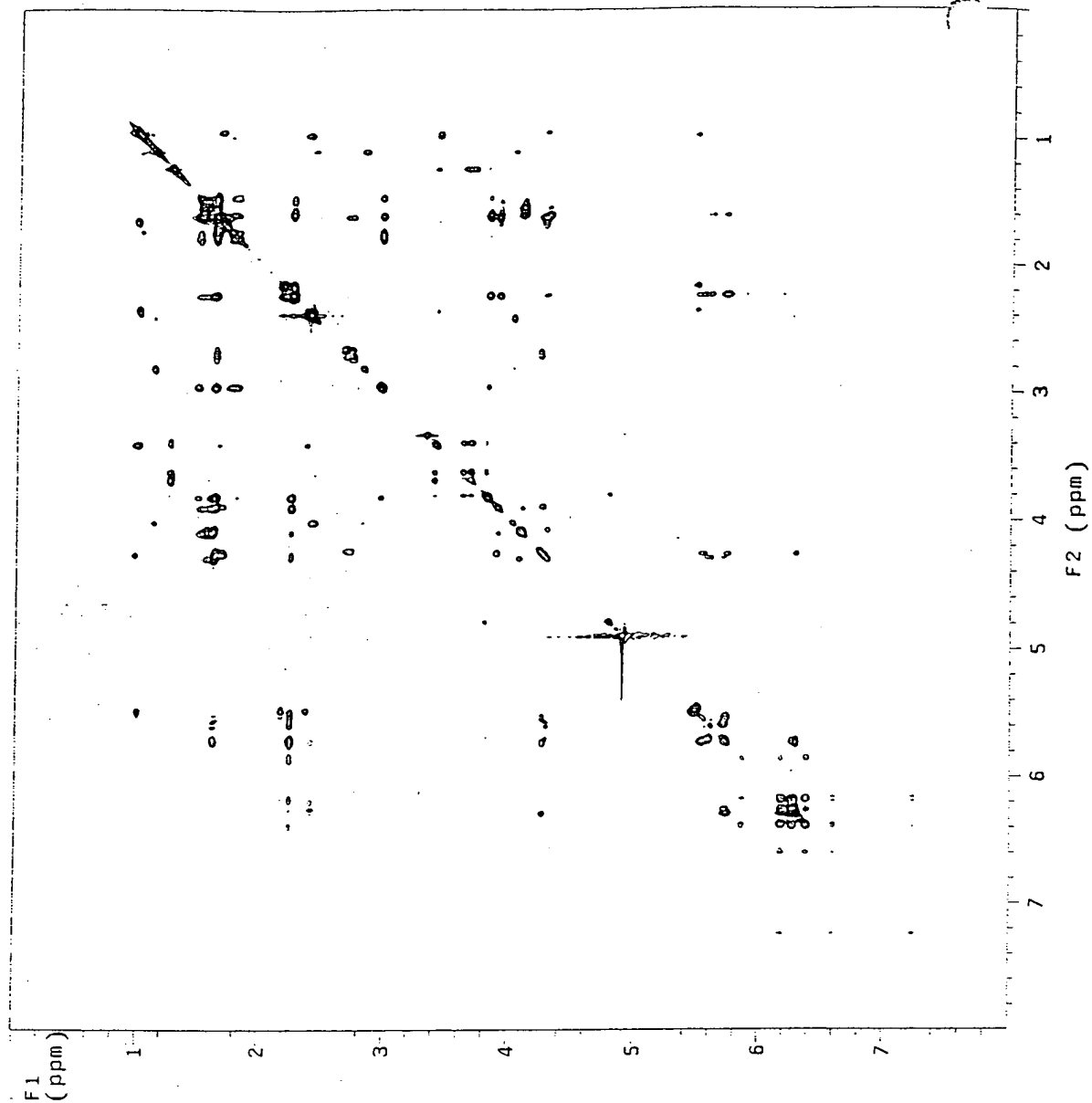


Figure 16

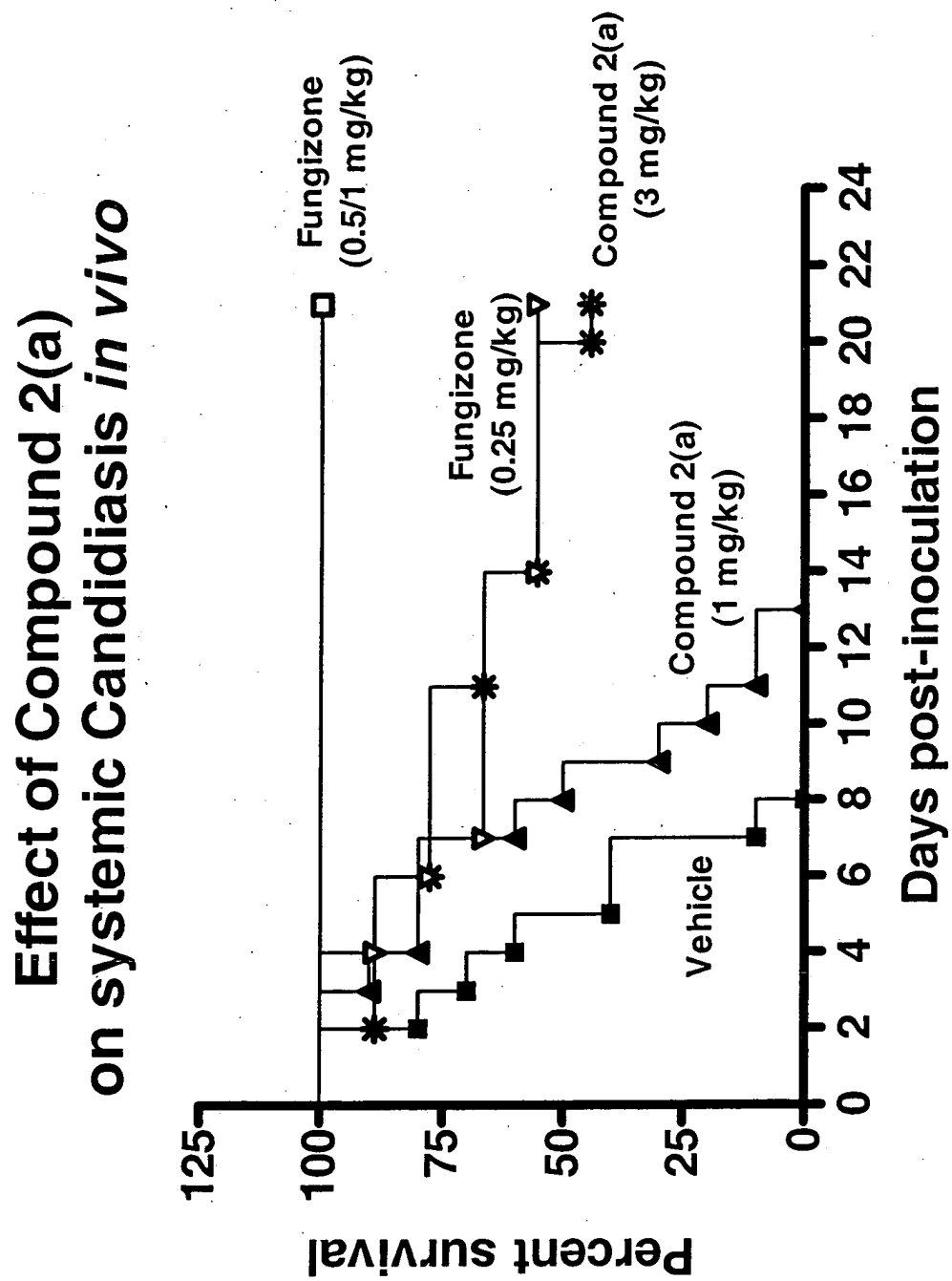


Figure 17a

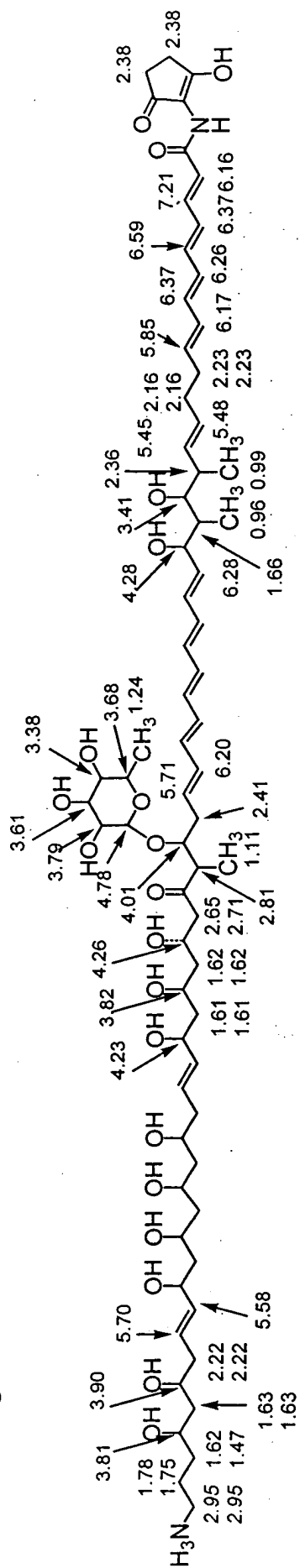


Figure 17b

